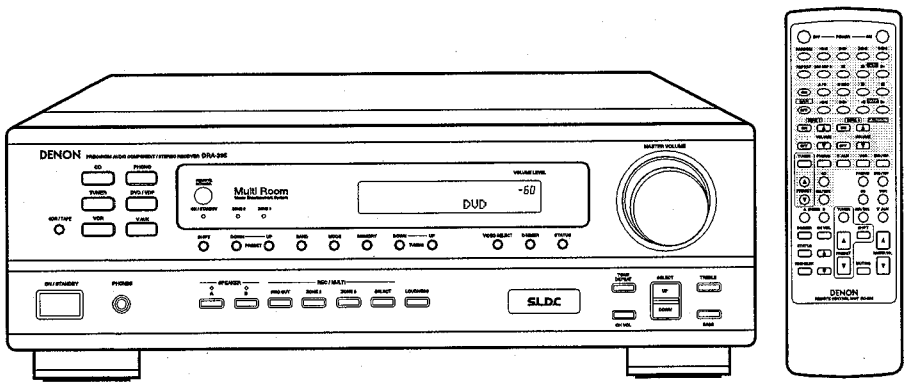
DENO-00397

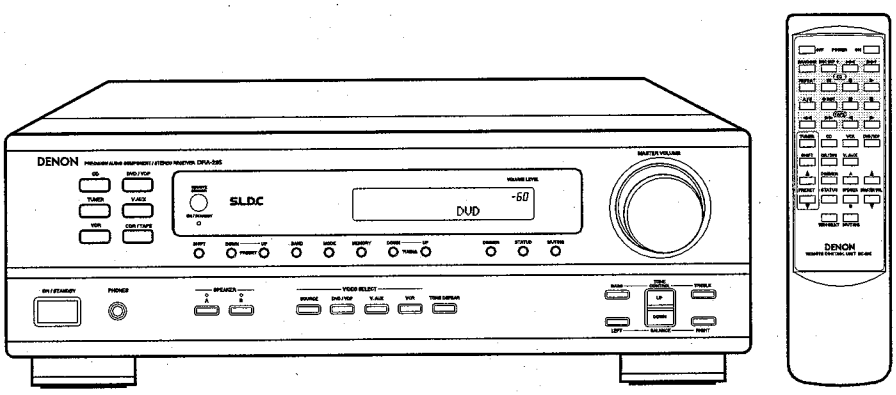
DENON

Service manual

DRA-395 2~34



DRA-295 36~69



DENON

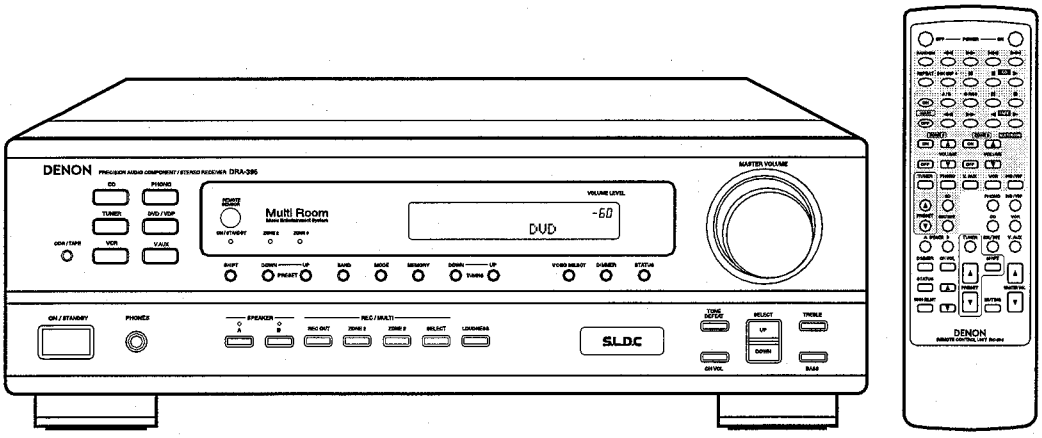
For U.S.A. & Canada model

Hi-Fi AM-FM Stereo Receiver

SERVICE MANUAL

MODEL DRA-395

AM-FM STEREO RECEIVER



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• Some illustrations using in this service manual are slightly different from the actual set.

NIPPON COLUMBIA CO., LTD.

14-14, AKASAKA 4-CHOME, MINATO-KU, TOKYO 107-8011 JAPAN
Telephone: 03 (3584) 8111

X0118 842 NC 0108

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

SPECIFICATIONS

- **Audio Section**

(Power Amplifier)

Rated output:	80W + 80W (8Ω/ohms, 20Hz ~ 20kHz with 0.08% T.H.D.)
Output terminals:	A or B 4 to 16Ω/ohms
	A + B 8 to 16Ω/ohms

(Analog)

LINE input - PRE OUT

Input sensitivity/input impedance:	200mV/47kΩ/kohms
Frequency response:	10Hz ~ 50kHz: ±1.5dB
S/N ratio:	100 dB (IHF-A weighted)
Total harmonic distortion:	0.009% (–3dB at rated output, 8Ω/ohms) (1kHz)
Rated output:	1.2V

PHONO input - REC OUT

Input sensitivity/input impedance:	2.5mV/47kΩ/kohms
RIAA deviation:	±0.5dB (20Hz ~ 20kHz)
S/N ratio:	74dB (IHF-A weighted, with 5mV input)
Total harmonic distortion:	0.03% (1kHz, 3V)
Rated output/Maximum output:	150mV/7V

- **Video Section**

(Standard Video Jacks)

Input/output level and impedance:	1V p-p, 75Ω/ohms
Frequency response:	5Hz ~ 10MHz +1, –3dB

- **Tuner Section**

	[FM] (note: µV at 75Ω/ohms, 0dBf = 1×10^{-15}W)	**[AM]**
Receiving range:	87.50MHz ~ 107.90 MHz	520kHz ~ 1710kHz
Usable sensitivity:	1.4µV (14.2dBf)	18µV
50dB quieting sensitivity:	MONO 2.8µV (20.2dBf)	
	STEREO 23µV (38.5dBf)	
S/N ratio:	MONO 80dB (IHF-A weighted)	
	STEREO 75dB (IHF-A weighted)	
Total harmonic distortion:	MONO 0.15% (1kHz)	
	STEREO 0.3% (1kHz)	

- **General**

Power supply:	AC120V, 60Hz
Power consumption:	3.39A
Maximum external dimensions:	434 (W) × 147 (H) × 417 (D) mm (17-1/16″ × 5-25/32″ × 16-7/16″)
Weight:	9.7kg (21lbs 6oz)

- **Remote Control Unit (RC-894)**

Batteries:	R03/AAA Type (two batteries)
External dimensions:	64 (W) × 206 (H) × 19 (D) mm (2-13/64″ × 8-9/32″ × 3/4″)
Weight:	140g (Approx. 4.9 oz) (including batteries)

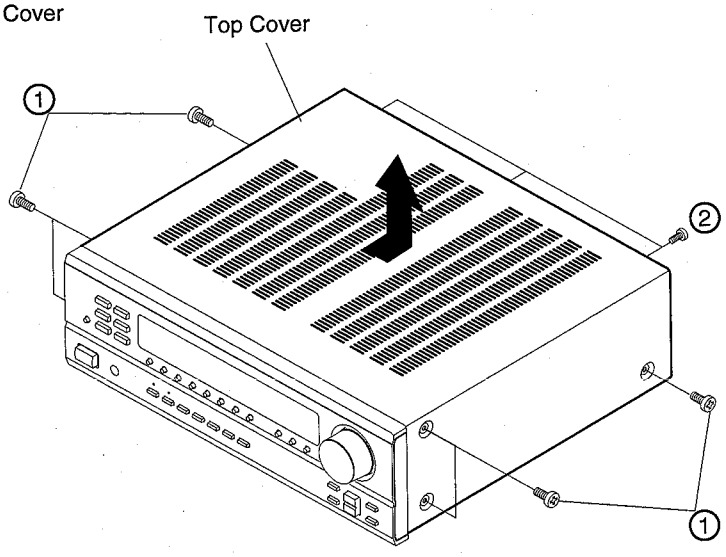
* For purposes of improvement, specifications and design are subject to change without notice.

DISASSEMBLY

(Follow the procedure below in reverse order when reassembling)

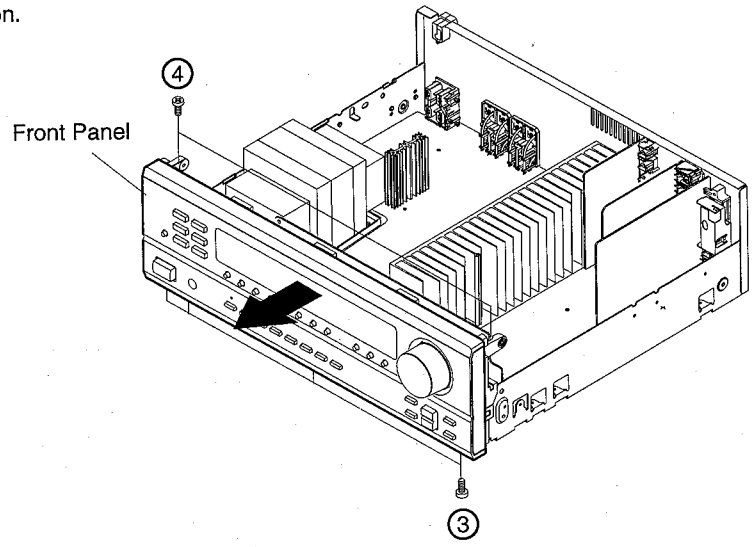
Top Cover

Remove 6 screws ① and 3 screws ②, detach the Top Cover in the arrow direction.



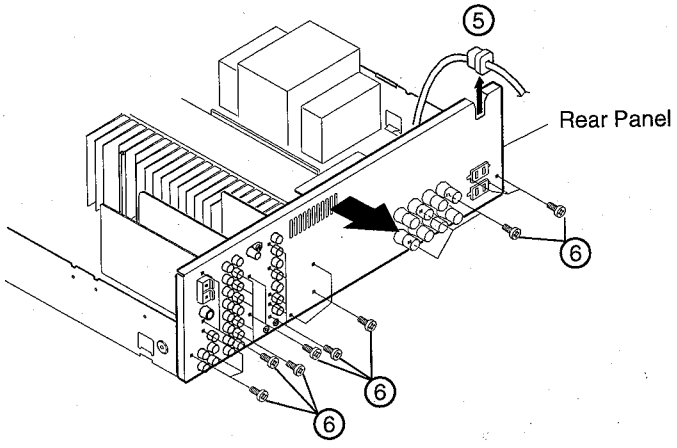
Front Panel

1. Remove 4 screws ③ and 2 screws ④.
2. Detach the Front Panel in the arrow direction.



Rear Panel

1. Remove cord bushing ⑤ from the Rear Panel.
2. Remove 26 screws ⑥.
3. Detach the Rear Panel in the arrow direction.

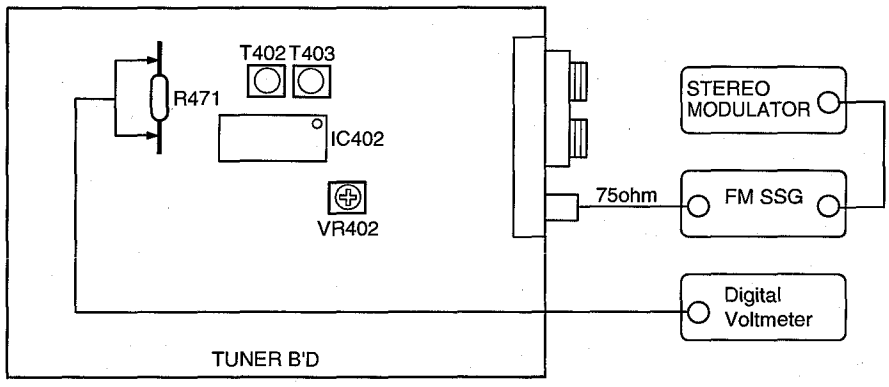


ADJUSTMENT

Tuner Section

CONNECTION DIAGRAM OF MEASURING INSTRUMENTS

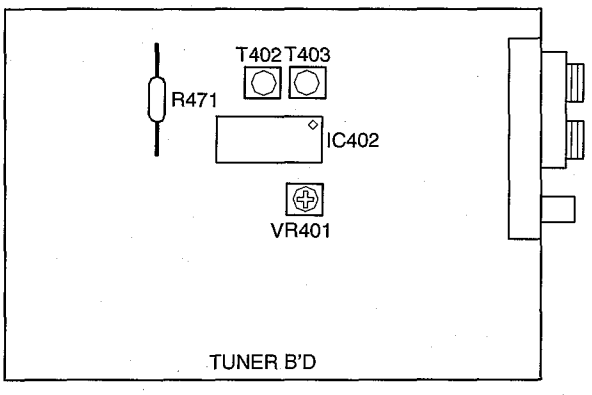
● **FM**



FM ALIGNMENT

Step	Alignment Item	Tuning Frequency Setting	Input					Output		Adjustment	
			Type	Frequency	Input Level	Modulation	Coupling	Type	Connect to	Points	Adjust to
1	Center Adjustment	98.1MHz (98.0MHz)	FM SSG	98.1MHz	60dBμ	Mono 1kHz 100%	Antenna Terminal	Digital Voltmeter	R471	T402	± 50mV
2	Distortion	98.1MHz (98.0MHz)	FM SSG	98.1MHz	60dBμ	Mono 1kHz 100%	Antenna Terminal	Distortion Meter	Output Terminal (L)	T403	Minimum Distortion
3	Repeat Steps 1 and 2										
4	Signal Level	98.1MHz (98.0MHz)	FM SSG	98.1MHz	20dBμ	OFF	Antenna Terminal	Light "TUNED" on FL Display		VR402	20^{+14}_{-10} dB

● **AM**



AM ALIGNMENT

Step	Alignment Item	Frequency	Input	Output		Adjustment		Remarks
				Type	Connect to	Points	Adjust to	
1	Signal Level	999 (1000) kHz	AM SSG	—	—	VR401	Light "TUNED" on FL Display	SSG OUTPUT 74dBμ (EMF)

Audio Section

Idling Current

Required measurement equipment : DC Voltmeter

Preparation

(1) Avoid direct blow from an air conditioner or an electric fan, and adjust the unit at normal room tempereture 15 °C ~ 30 °C (59 °F ~ 86 °F).

(2) Presetting
- POWER (Power sourse switch) → OFF
- SPEAKER (Speaker terminal) → No load (Do not connect speaker, dummy resistor, etc.)

Adjustment

(1) Remove top cover and set VR101, VR102 on Amp. Unit at full counterclockwise (↺) position.

(2) Connect DC Voltmeter to test points (Lch: TP101, Rch: TP102).

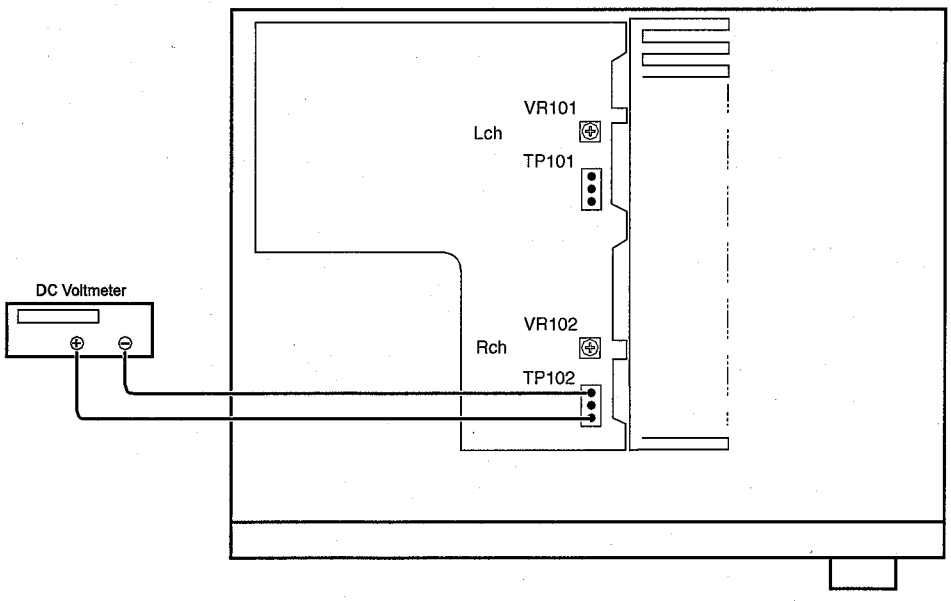
(3) Connect power cord to AC Line, and turn power switch "ON".

(4) Presetting. MASTER VOLUME : "---" counterclockwise (↺ min.)
FUNCTION : CD

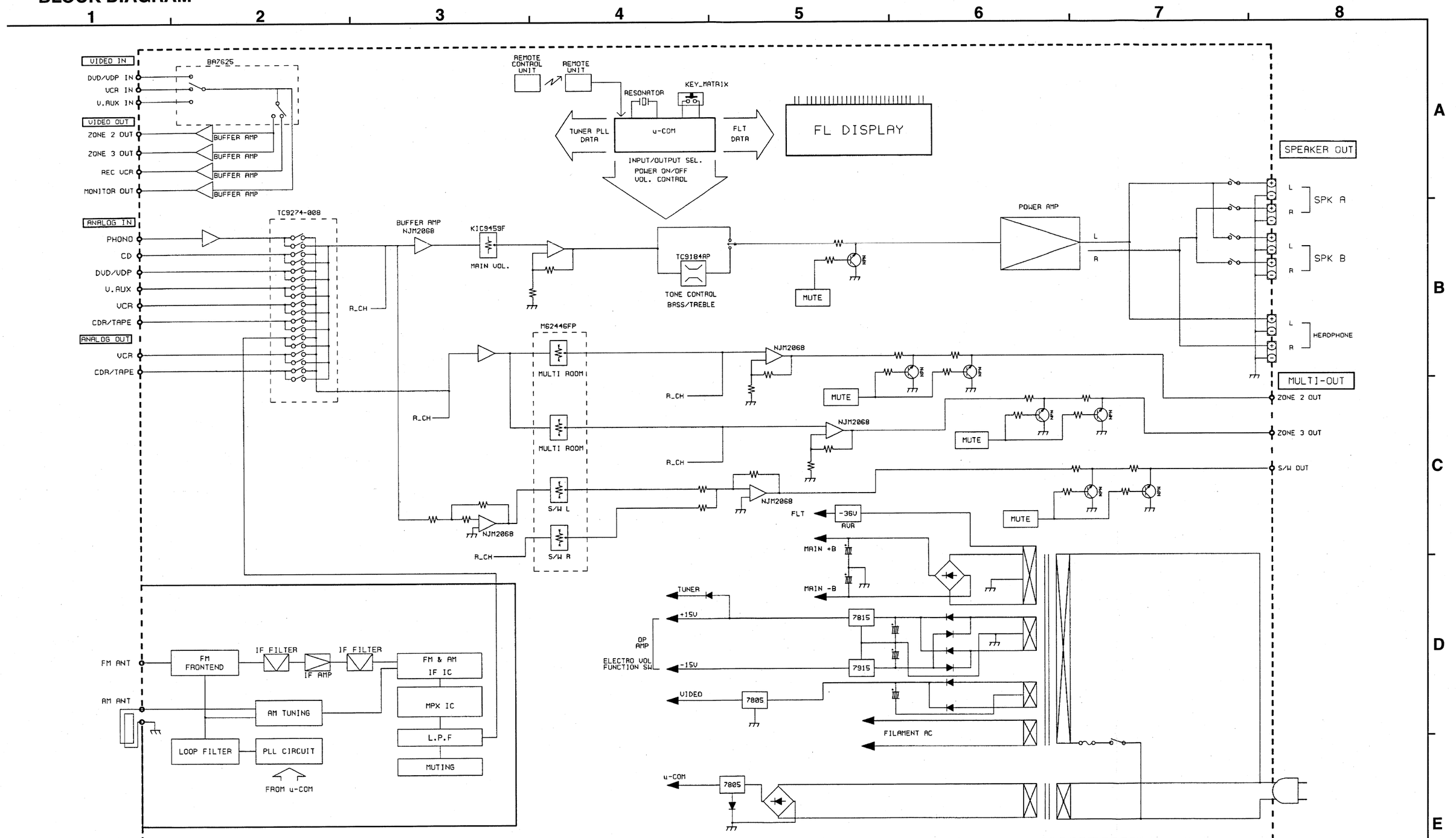
(5) Within 2 minutes after the power on, turn VR101 clockwise (↻) to adjust the TEST POINT voltage to 1.5 mV ±0.5 mV DC.

(6) After 10 minutes from the preset above, turn VR101 to set the voltage to 2.5 mV ±0.5 mV DC.

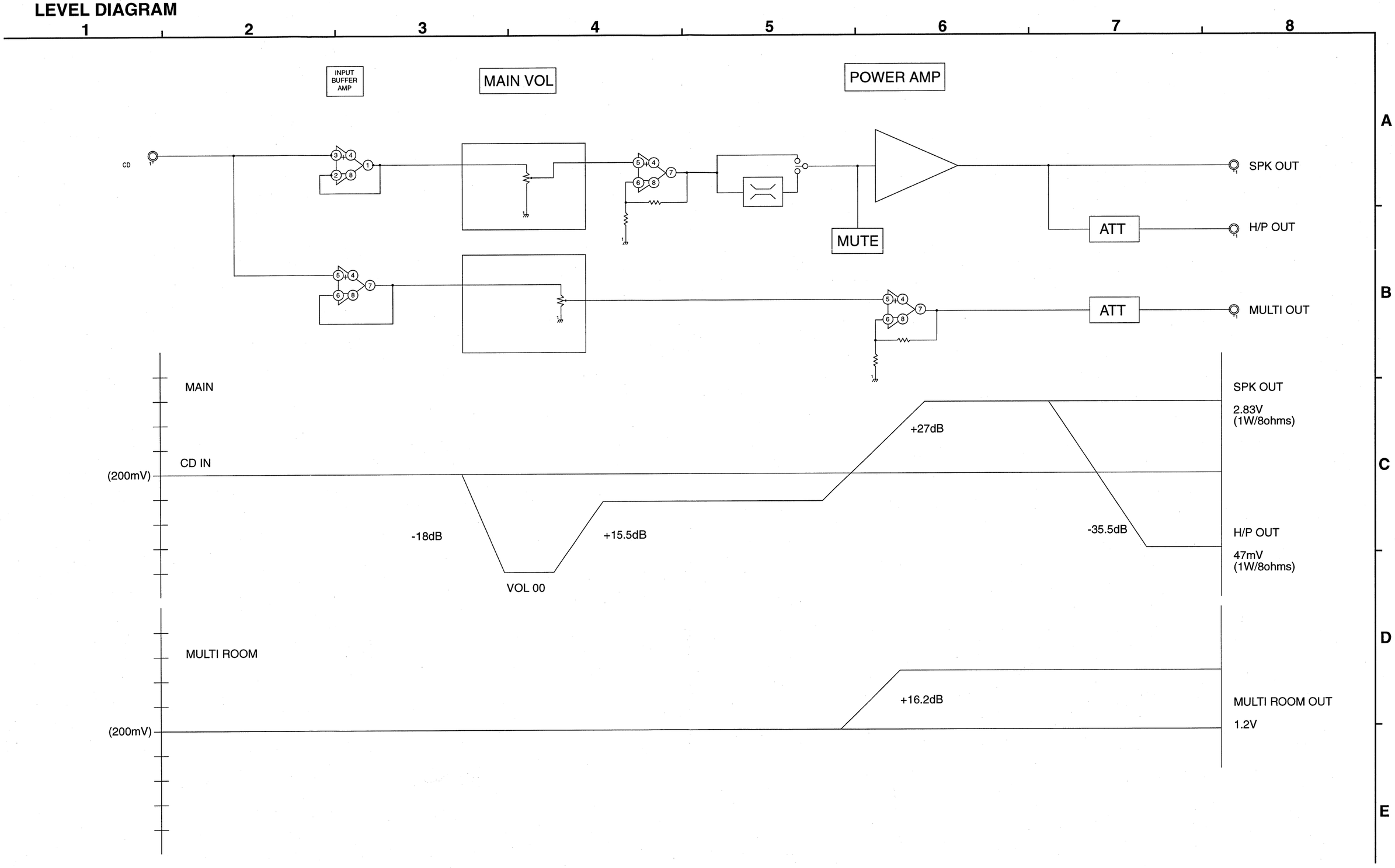
(7) Adjust the Variable Resistors of other channels in the same way.



BLOCK DIAGRAM



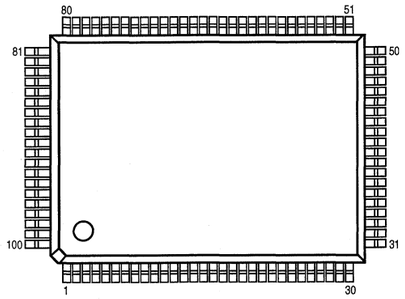
LEVEL DIAGRAM



SEMICONDUCTORS

● IC's

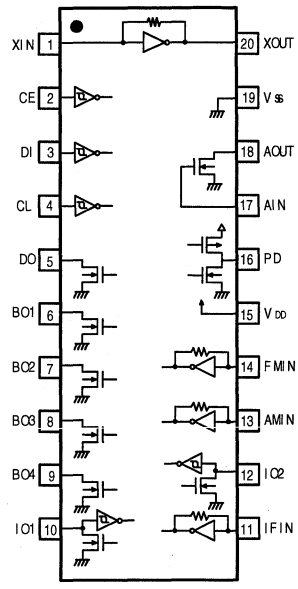
CXP82840-319Q (IC900)



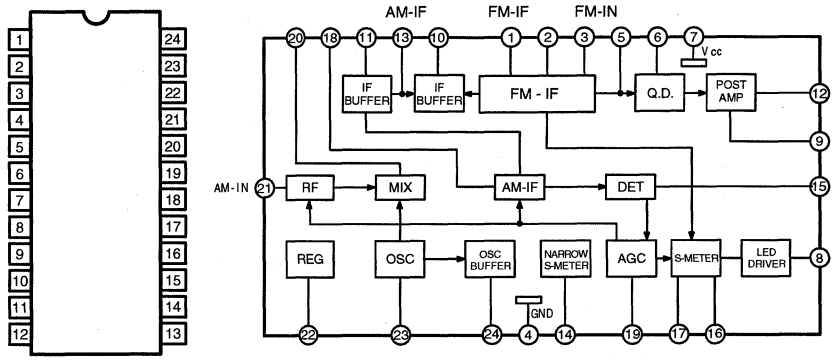
CXP82840-319Q Terminal Function

Pin No.	Pin Name	I/O	Function
1	G2/A1	O	FL G02
2	G1/A0	O	FL G01
3	NC(Vdd)	I	NC(Connect to Vdd)
4	POWER DOWN	I	AC OFF Detect
5	ENC VOLUME UP	I	Encoder VOLUME UP
6	RDS CLOCK	I	RDS clock input(TDA7330)
7	ENC VOLUME DOWN	I	Encoder VOLUME DOWN
8	REMOCON	I	Remote signal input.
9	PROTECTION	I	Protection detecting input.
10	SUB ZONE2 LED	O	ZONE3 LED indicator control
11	SUB ZONE1 LED	O	ZONE2 LED indicator control
12	62446 LATCH	O	Electronic volume control.(M62446 LATCH)
13	FUNCTION SW 1 CE	O	Function IC control.(TC9274 CE)
14	FUNCTION 1/2 DATA	O	Function IC control.(TC9274 DATA)
15	FUNCTION 1/2 CLOCK	O	Function IC control.(TC9274 CLOCK)
16	VOLUME,PLL,4094,DATA	O	LC72131,M62446,KIC9459,TC9184,TC4094(DATA)
17	VOLUME,PLL,4094,CLOCK	O	LC72131,M62446,KIC9459,TC9184,TC4094(CLOCK)
18	TUNED	I	TUNED signal in.
19	STEREO	I	STEREO signal in.
20	IF COUNT	I	PLL data in.(LC72131)
21	TUNER MUTE	O	Tuner mute output.
22	PLL CE	O	LC72131(CE)
23	4094 STB	O	TC4094(STB)
24	VOLUME STB	O	KIC9459,TC9184(STB)
25	SUB 1 MUTE	O	ZONE2 mute control.
26	MAIN MUTE	O	MAIN,Subwoofer mute output.
27	POWER RELAY	O	Power supply relaycontrol.
28	AV REF.	I	Reference voltage input for A/D converter.
29	1511 DATA	O	Not used.
30	RDS DATA	I	Not used.
31	KEY IN 1	I	Key input 1
32	KEY IN 2	I	Key input 2
33	KEY IN 3	I	Key input 3
34	STEP OPTION	I	Area select.
35	SET OPTION	I	Model select.
36	SPEAKER A LED 1	O	SPEAKER A LED indicator control
37	A VSS	I	A/D converter GND.
38	RESET	I	Low-level active,system reset.
39	EXTAL	I	EXTAL(10MHz)
40	XTAL	O	XTAL(10MHz)
41	VSS	I	GND
42	NC(TX)	O	Not used.
43	G(TEX)	I	GND
44	VDD	I	Vcc SUPPLY.
45	VFDP	I	FDP voltage supply.
46	SPEAKER B LED 2	O	SPEAKER B LED indicator control
47	STBY LED 3	O	STANDBY LED indicator control
48	PD2/A53	O	FL P38
49	PD3/A52	O	FL P37
50	PD4/A51	O	FL P36
51	PD5/A50	O	FL P01
52	PD6/A49	O	FL P02
53	PD7/A48	O	FL P03
54	PF0/A47	O	FL P04
55	PF1/A46	O	FL P05
56	PF2/A45	O	FL P06
57	PF3/A44	O	FL P07
58	PF4/A43	O	FL P08
59	PF5/A42	O	FL P09
60	PF6/A41	O	FL P10
61	PF7/A40	O	FL P11
62	PG0/A39	O	FL P12
63	PG1/A38	O	FL P13
64	PG2/A37	O	FL P14
65	PG3/A36	O	FL P15
66	PG4/A35	O	FL P16
67	PG5/A34	O	FL P17
68	PG6/A33	O	FL P18
69	PG7/A32	O	FL P19
70	PH0/A31	O	FL P20
71	PH1/A30	O	FL P21
72	PH2/A29	O	FL P22
73	PH3/A28	O	FL P23
74	PH4/A27	O	FL P24
75	PH5/A26	O	FL P25
76	PH6/A25	O	FL P26
77	PH7/A24	O	FL P27
78	A23	O	FL P28
79	A22	O	FL P29
80	A21	O	FL P30
81	A20	O	FL P31
82	A19	O	FL P32
83	A18	O	FL P33
84	A17	O	FL P34
85	A16	O	FL P35
86	G16	O	FL G16
87	G15	O	FL G15
88	G14	O	FL G14
89	Vdd	I	Vcc SUPPLY.
90	G13	O	FL G13
91	G12	O	FL G12
92	G11	O	FL G11
93	G10	O	FL G10
94	G9	O	FL G09
95	G8	O	FL G08
96	G7	O	FL G07
97	G6	O	FL G06
98	G5	O	FL G05
99	G4	O	FL G04
100	G3	O	FL G03

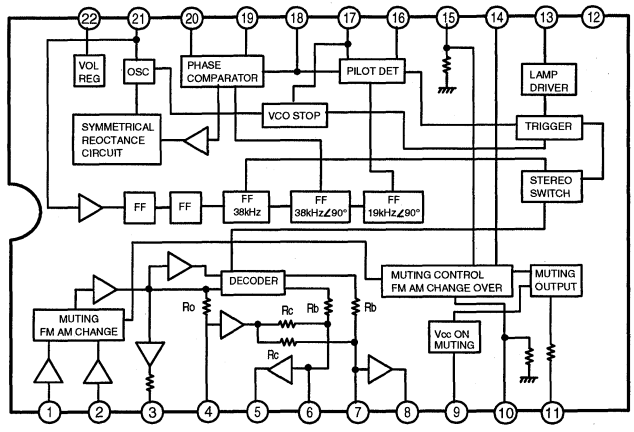
LC72131M (IC401)



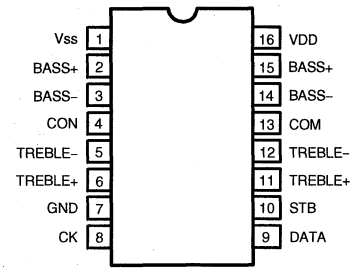
LA1266 (IC402)

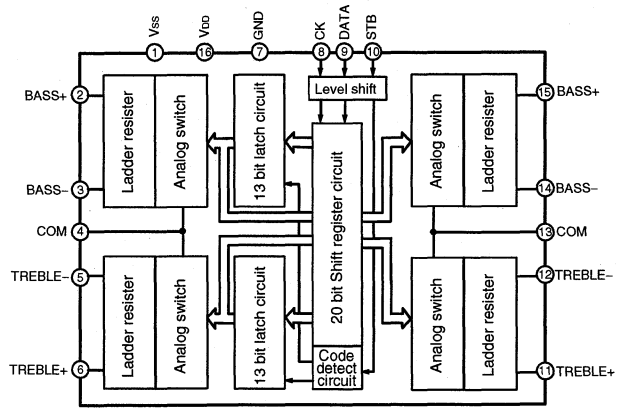


LA3401 (IC403)

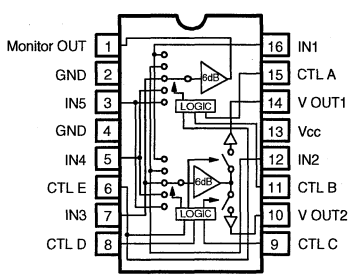


TC9184AP (IC602)





BA7625 (IC501)



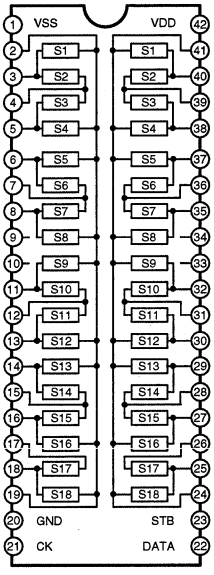
A	B	E	MONITOR OUT
L	L	*	IN 1
H	L	*	IN 2
L	H	*	IN 3
H	H	L	IN 4
H	H	H	IN 5

C	D	E	V OUT 1
L	L	*	—
H	L	*	IN 2
L	H	*	IN 3
H	H	L	IN 4
H	H	H	IN 5

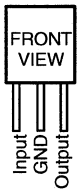
C	D	E	V OUT 2
L	L	*	IN 1
H	L	*	—
L	H	*	IN 3
H	H	L	IN 4
H	H	H	IN 5

Note 1: * mark means that feasible for either H or L.
Note 2: Each input terminal is provided with sink chip clamp (BA7625).
Each input terminal takes 20kohm at the end (BA7626).

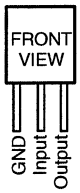
TC9274N-008 (IC303)



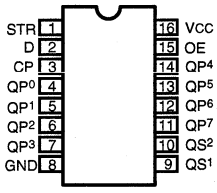
KIA7805AP (IC103)
NJM7805FA (IC104)
KIA7815AP (IC101)



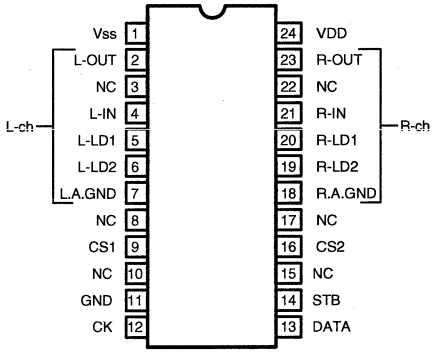
NJM7915FA (IC102)



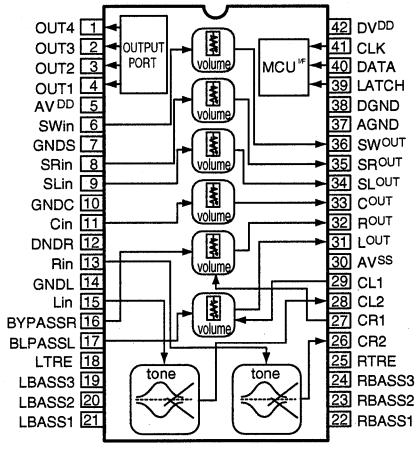
PC74HC4094 (IC604)



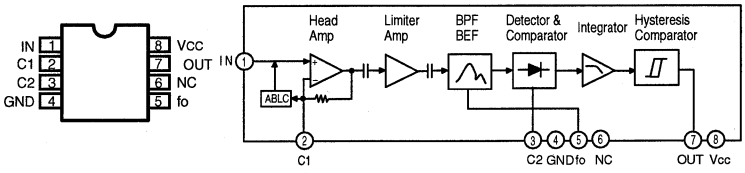
KIC9459F (IC601)



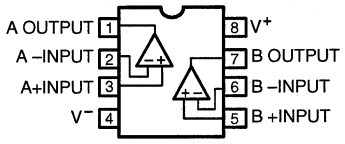
M62446FP (IC603)



CXA1511M(IC502)



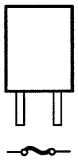
NJM2068DD (IC300~302, 605~610)



● IC PROTECTOR

ICP-N15 (IC105)

FRONT VIEW



● POSISTOR

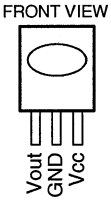
P43T7D330BW16

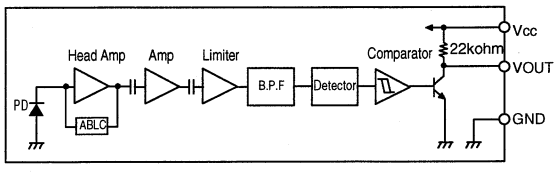
FRONT VIEW

● IR SENSOR

NJL64H380A(RMC900)

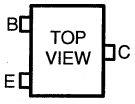
FRONT VIEW



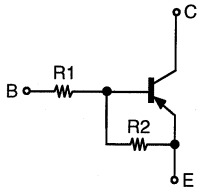


● TRANSISTORS

DTA114EK
DTA114YK
DTC114YK

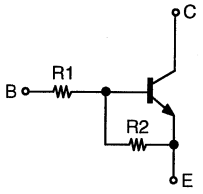


DTA series



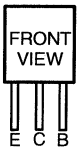
	R1	R2
DTA114EK	10kohm	10kohm
DTA114ES	10kohm	10kohm
DTA114YK	10kohm	47kohm
DTA114ES	47kohm	47kohm

DTC series

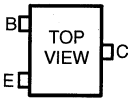


	R1	R2
DTC114ES	10kohm	10kohm
DTC114YK	10kohm	47kohm
DTC114YS	10kohm	47kohm
DTC144ES	47kohm	47kohm

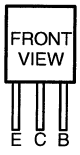
DTA114ES
DTA144ES
DTC114ES
DTC114YS
DTC144ES



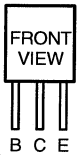
KTC3880S



2SD947F
KTA1266Y
KSA992F
KSC1845F
KTC3200BL
KTC3198Y
KTA1268BL
KSA916Y
2SC1740S
KTC2874B

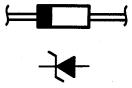


2SB1560
2SD2390

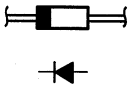


● DIODES (LED Included)

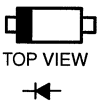
MTZJ3.3B
MTZJ5.1B
MTZJ5.6B
MTZJ6.2B
MTZJ6.8B
MTZJ7.5A
MTZJ7.5B
MTZJ18B
MTZJ20B



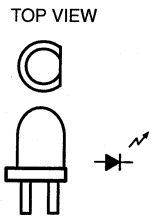
1N4007
1SS133



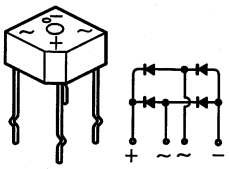
KDS160



HL-50RDRF4

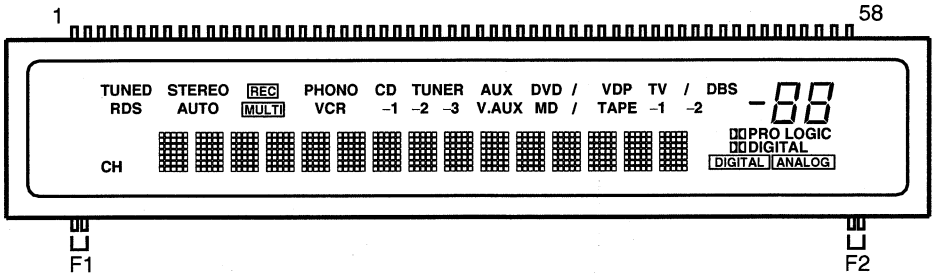


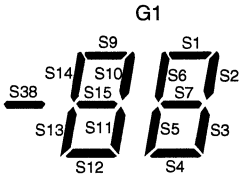
KBPC604

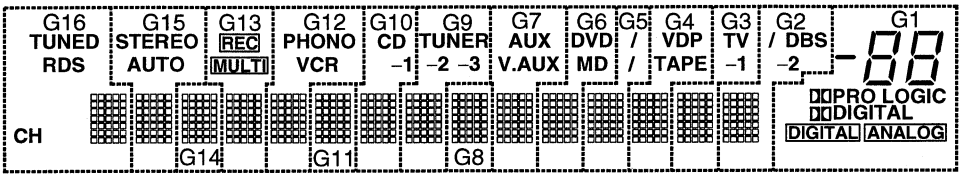


● FL DISPLAY

16-st-42GNK (FL900)







G2~G16

S1	S2	S3	S4	S5
S6	S7	S8	S9	S10
S11	S12	S13	S14	S15
S16	S17	S18	S19	S20
S21	S22	S23	S24	S25
S26	S27	S28	S29	S30
S31	S32	S33	S34	S35

Pin Assignment

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CONNECTION	F1	F1	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18
PIN NO.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CONNECTION	S19	S20	S21	S22	S23	S24	S25	S26	S27	S28	S29	S30	S31	S32	S33	S34	S35	S36	S37	S38
PIN NO.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58		
CONNECTION	G16	G15	G14	G13	G12	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1	F2	F2		

F1,F2 : Filament
G1~G16 : Grid
S1~S38 : Anode

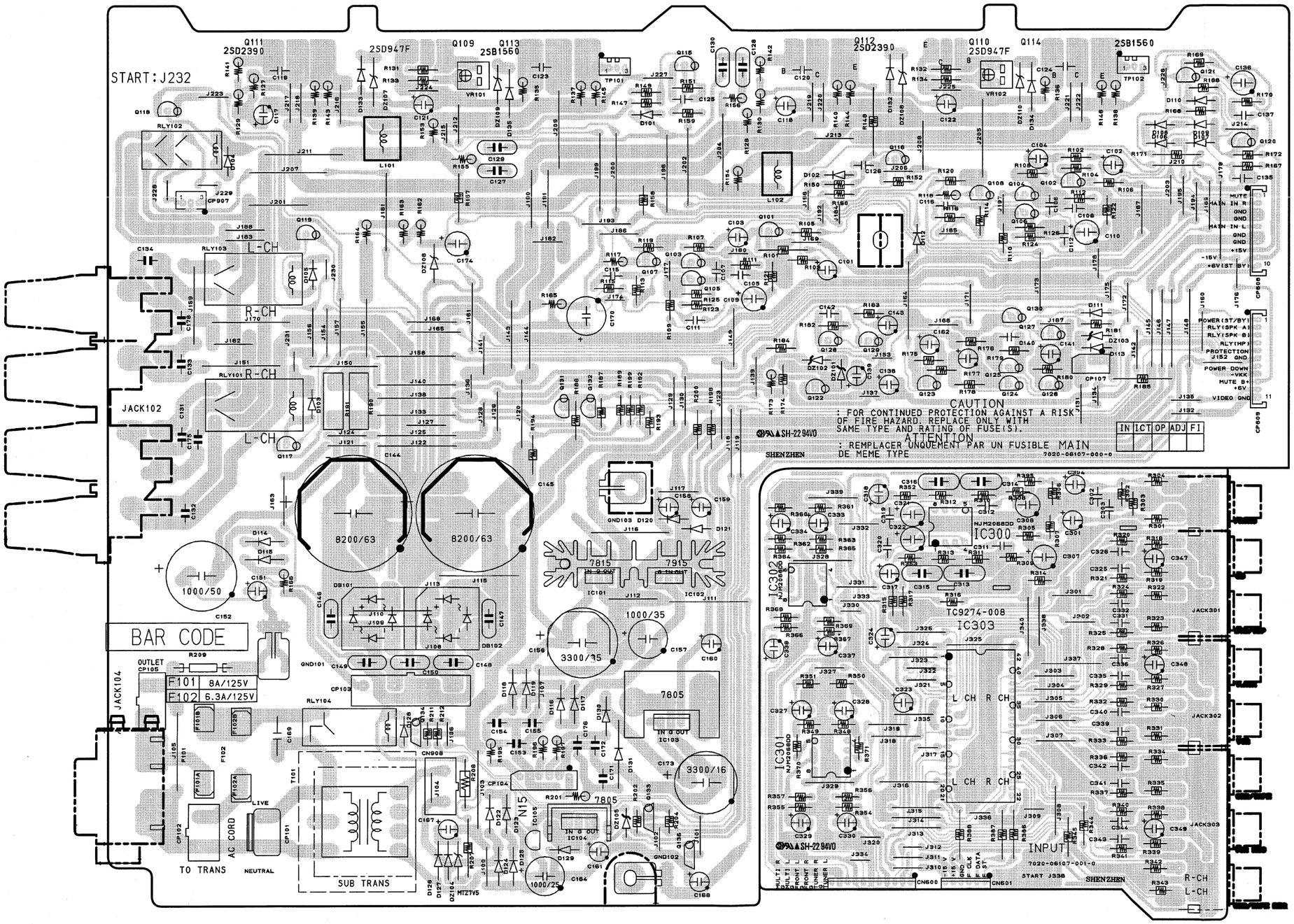
Anode & Grid Assignment

	G1	G2~G16		G1	G2~G16		G1	G2~G16		G1	G2~G16
S1	S1	S1	S10	S10	S10	S19	—	S19	S28	—	S28
S2	S2	S2	S11	S11	S11	S20	—	S20	S29	—	S29
S3	S3	S3	S12	S12	S12	S21	—	S21	S30	—	S30
S4	S4	S4	S13	S13	S13	S22	—	S22	S31	—	S31
S5	S5	S5	S14	S14	S14	S23	—	S23	S32	—	S32
S6	S6	S6	S15	S15	S15	S24	—	S24	S33	—	S33
S7	S7	S7	S16	—	S16	S25	—	S25	S34	—	S34
S8	—	S8	S17	DIGITAL	S17	S26	—	S26	S35	—	S35
S9	S9	S9	S18	PRO LOGIC	S18	S27	—	S27			

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15	G16
S36	DIGITAL	/	TV	VDP	/(DVD)	DVD	AUX	—	TUNER	CD	—	PHONO	REC	—	STEREO	TUNED
S37	ANALOG	–2	–1	TAPE	/(MD)	MD	V.AUX	—	–2	–1	—	VCR	MULTI	—	AUTO	RDS
S38	S38	DBS	—	—	—	—	—	—	–3	—	—	—	—	—	—	CH

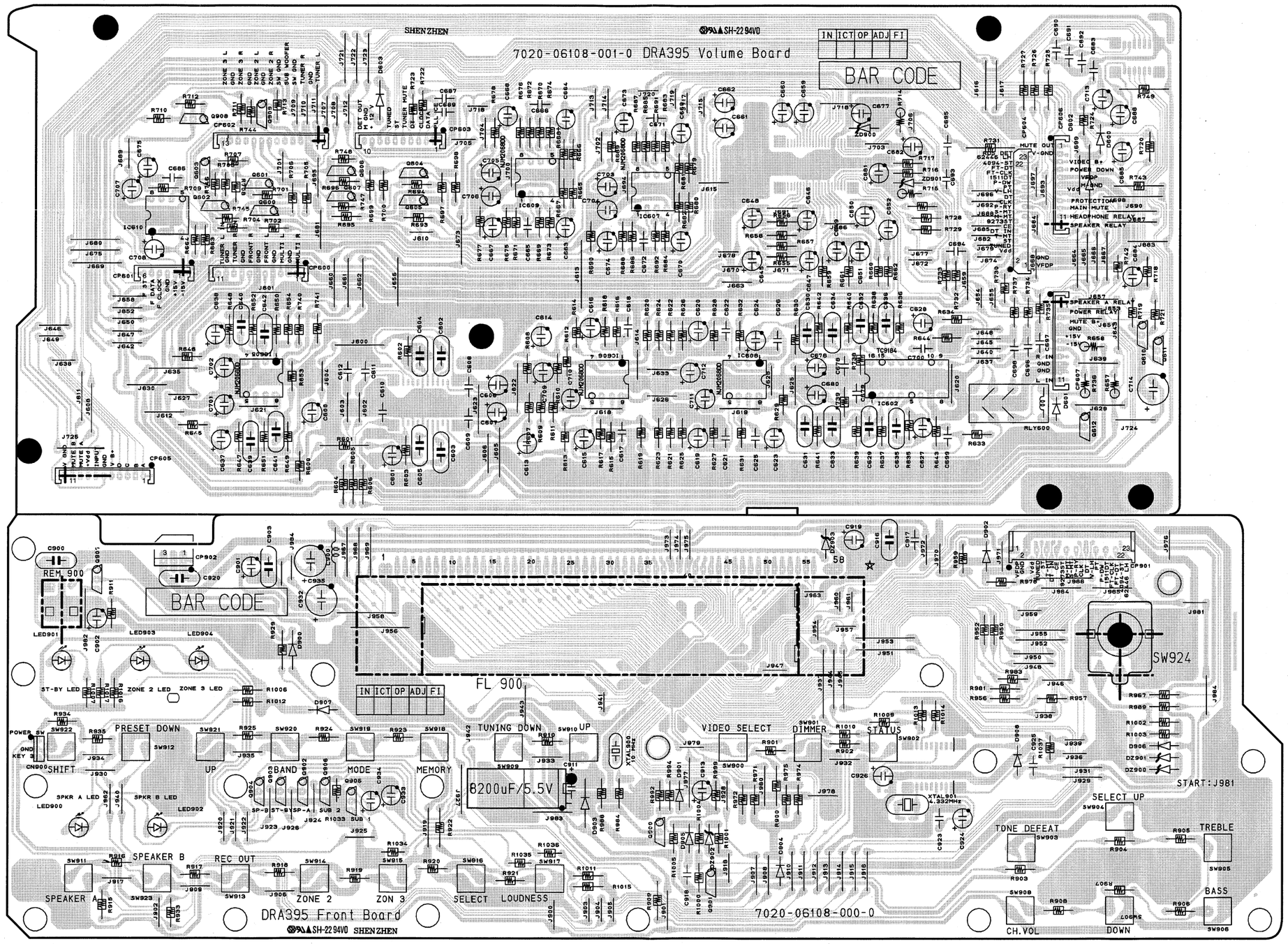
PRINTED WIRING BOARDS

MAIN P.W.B. UNIT Ass'y

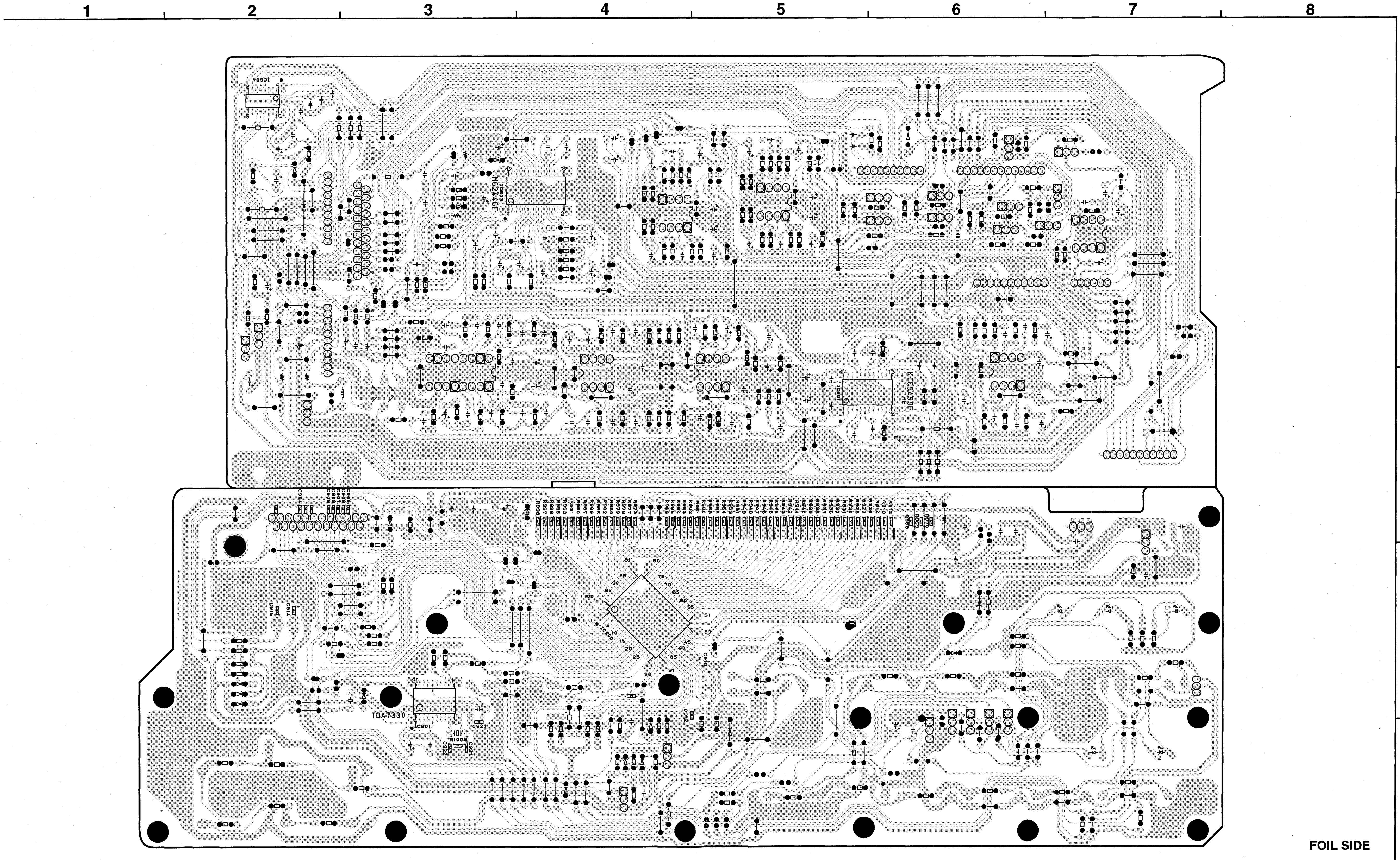


COMPONENT SIDE

FRONT P.W.B. UNIT Ass'y

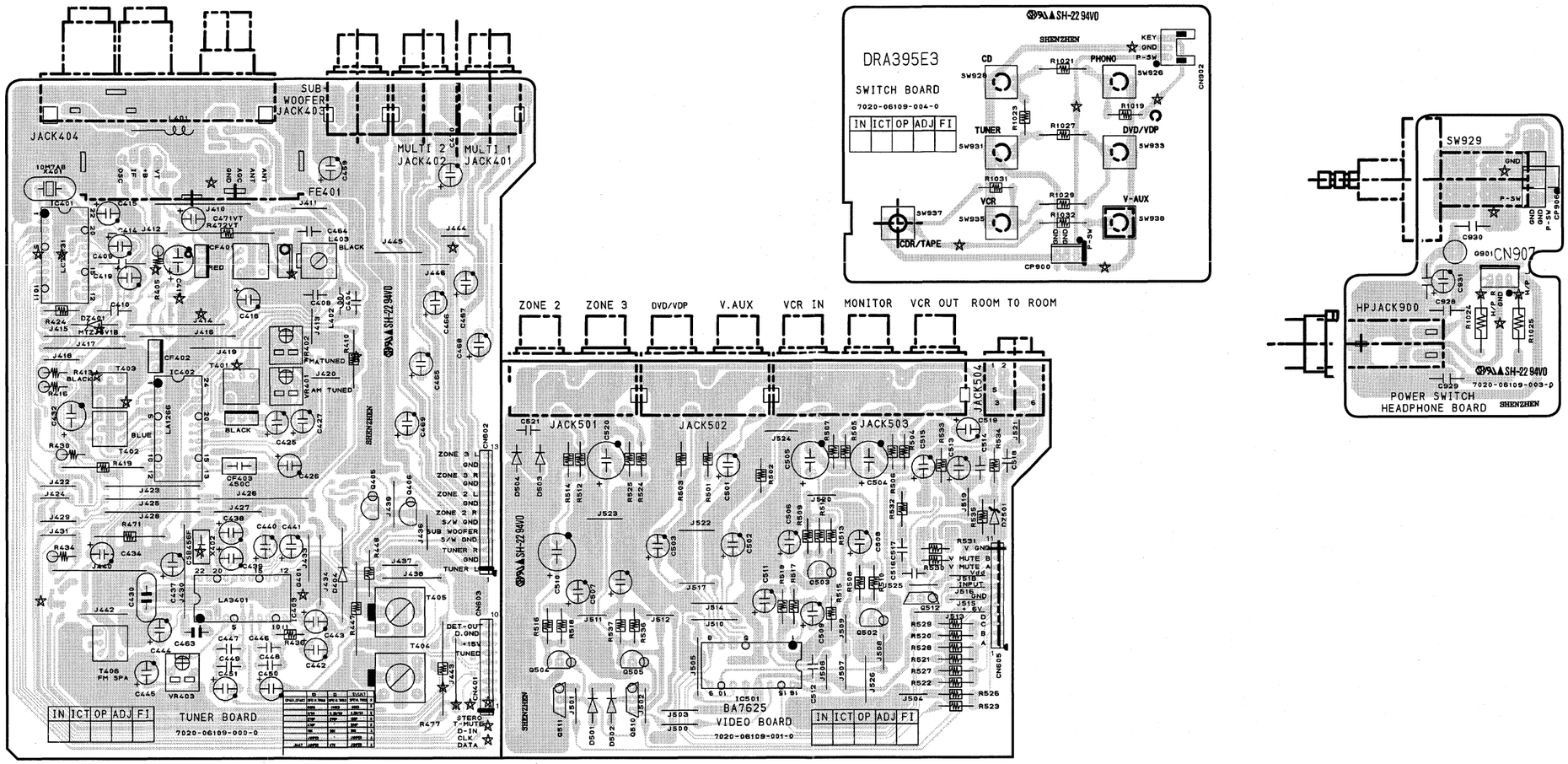


COMPONENT SIDE

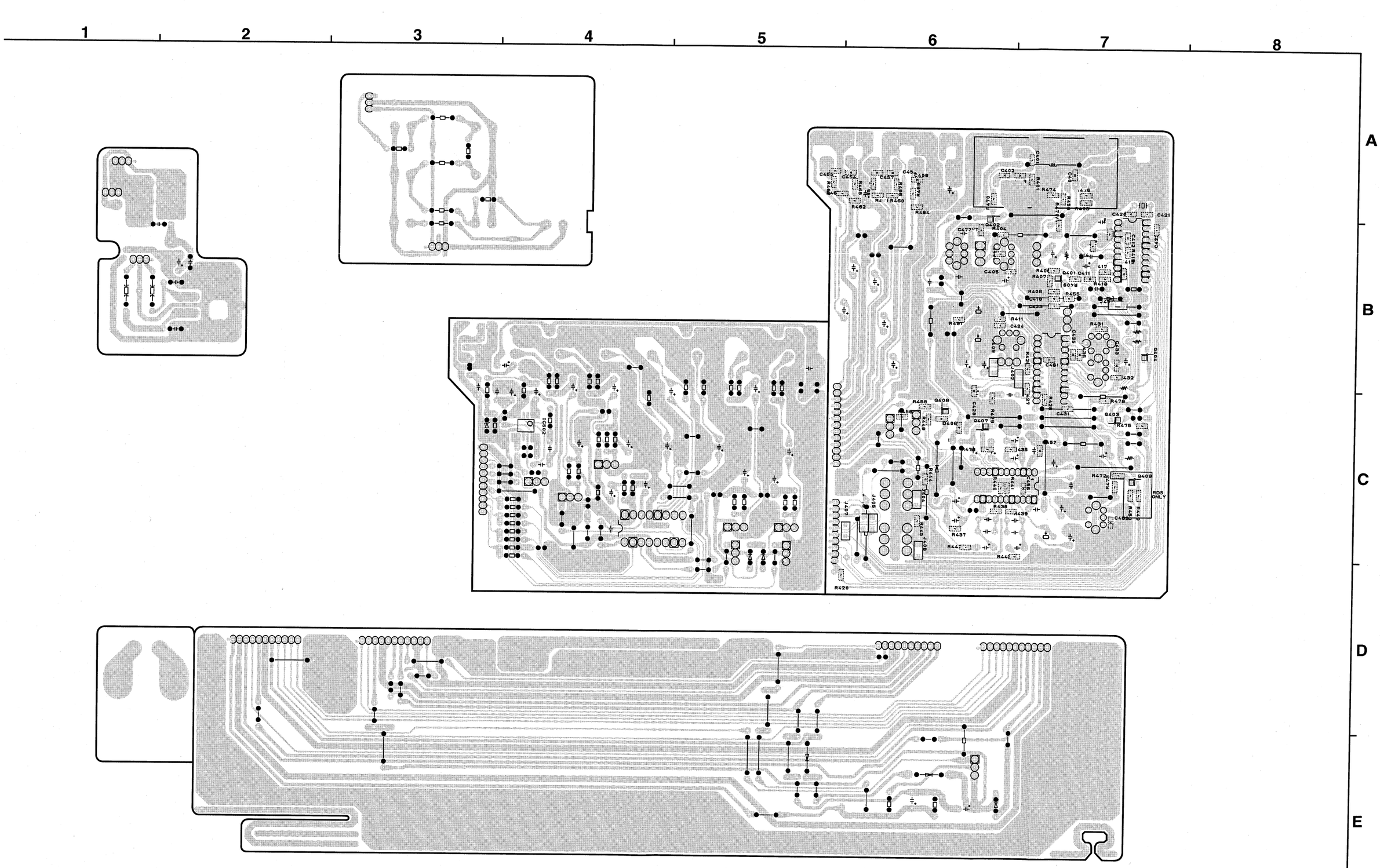

1
2
3
4
5
6
7
8
A
B
C
D
E
IC603
M62446F
IC601
KIC9459F
IC800
TDA7330
IC901

FOIL SIDE

TUNER P.W.B. UNIT Ass'y



COMPONENT SIDE


1
2
3
4
5
6
7
8
A
B
C
D
E
R420
RD5 ONLY
FOIL SIDE

NOTE FOR PARTS LIST

- Part indicated with the mark "◉" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN 14K 2E 182 G FR

Type	Shape and performance	Power	Resistance	Allowable error	Others
RD : Carbon RC : Composition RS : Metal oxide film RW : Winding RN : Metal film RK : Metal mixture		2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W		F : ±1% G : ±2% J : ±5% K : ±10% M : ±20%	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse-resistor F : Lead wire forming

*** Resistance**

1 8 2 ⇒ 1800 ohm = 1.8 kohm
- 2: Indicates number of zeros after effective number.
- 18: 2-digit effective number.

• Units: ohm

1 R 2 ⇒ 1.2 ohm
- 2: 1-digit effective number.
- 1R: 2-digit effective number, decimal point indicated by R.

• Units: ohm

● Capacitors

Ex.: CE 04W 1H 2R2 M BP

Type	Shape and performance	Dielectric strength	Capacity	Allowable error	Others
CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalum electrolytic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized		0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V		F : ±1% G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0% C : ±0.25pF D : ±0.5pF = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For change and discharge HF : For assuring high requency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming

*** Capacity (electrolyte only)**

2 2 2 ⇒ 2200μF
- 2: Indicates number of zeros after effective number.
- 22: 2-digit effective number.

• Units: μF.

2 R 2 ⇒ 2.2μF
- 2: 1-digit effective number.
- 2R: 2-digit effective number, decimal point indicated by R.

• Units: μF.

*** Capacity (except electrolyte)**

2 2 2 ⇒ 2200pF=0.0022μF
- 2 (More than 2): Indicates number of zeros after effective number.
- 22: 2-digit effective number.

• Units: pF.

2 2 1 ⇒ 220pF
- 1 (0 or 1): Indicates number of zeros after effective number.
- 22: 2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

PARTS LIST OF P.W.B. UNIT

MAIN P.W.B. UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC101	963 0057 903	IC KIA7815AP	J126781500060
IC102	963 0044 806	IC NJM7915FA	J126791500010
IC103	960 0057 709	IC KIA7805AP	J126780500360
IC104	960 0196 001	IC NJM7805FA	J126780500130
IC105	960 0195 808	IC ICP-N15	J120001500030
IC300-302	960 0179 701	IC NJM2068DD	J121206800000
IC303	963 0071 400	IC TC9274N-008	J080927400010
Q101,102	960 0196 603	Transistor KTC2874B	J502287400010
Q103-106	960 0196 205	Transistor KSA992Y	J5000992F0050
Q107,108	960 0196 506	Transistor KSC1845F	J5021845F0000
Q115,116	960 0196 506	Transistor KSC1845F	J5021845F0000
Q117-119	963 0022 006	Transistor DTC114YS	J6020114Y0050
Q120	960 0196 302	Transistor KTA1268BL	J5001268B0050
Q121	960 0196 700	Transistor KTC3200BL	J5023200B0050
Q122	960 0189 005	Transistor KSA916Y	J5000916Y0050
Q123	960 0005 105	Transistor KTA1266Y	J5001266Y0050
Q124	960 0005 202	Transistor KTC3198Y	J5023198Y0000
Q125	960 0196 302	Transistor KTA1268BL	J5001268B0050
Q126,127	960 0005 202	Transistor KTC3198Y	J5023198Y0000
Q128	960 0196 302	Transistor KTA1268BL	J5001268B0050
Q129,130	960 0005 202	Transistor KTC3198Y	J5023198Y0000
Q131,132	960 0196 302	Transistor KTA1268BL	J5001268B0050
Q133,134	960 0196 409	Transistor 2SC1740SR	J5021740S0010
Q136	963 0022 006	Transistor DTC114YS	J6020114Y0050
D101-113	963 0020 309	Diode 1SS133	K000013300520
D114-119	963 0058 407	Diode 1N4007	K000400700520
D120,121	963 0020 309	Diode 1SS133	K000013300520
D122-125	963 0058 407	Diode 1N4007	K000400700520
D126-129	963 0020 309	Diode 1SS133	K000013300520
D130,131	963 0058 407	Diode 1N4007	K000400700520
D132-135	963 0020 309	Diode 1SS133	K000013300520
DB101,102	960 0197 107	Diode KBPC604	K047604000020
DZ101,102	963 0046 202	Zener diode MTZJ18B	K06018R044520
DZ103,104	963 0047 405	Zener diode MTZJ7.5B	K06007R544520
DZ105	963 0058 708	Zener diode MTZJ20B	K06020R044520
DZ106	960 0095 500	Zener diode MTZJ5.1B	K06005R144520
DZ107-110	963 0047 502	Zener diode MTZJ3.3B	K06003R344520
RESISTORS GROUP			
R117,118	960 9004 301	Metal film 47ohm 1/4W (NB)	C060047063050
R127-130	244 2052 957	Metal film 5.6kohm 1W (NB)	C060056265070
R135,136	963 9003 068	Metal film 4.7ohm 1/4W (NB)	C0604R7063050
R137-140	244 2043 982	Metal film 0.22ohm 1W (NB)	C060R22065070
R141,142	963 9003 068	Metal film 4.7ohm 1/4W (NB)	C0604R7063050
R143-146	244 2043 982	Metal film 0.22ohm 1W (NB)	C060R22065070
R153-156	244 2043 937	Metal oxide 10ohm 1W (NB)	C041010065060

Ref. No.	Part No.	Part Name	Remarks
R162-164	244 2055 996	Metal film 1.2kohm 1W (NB)	C060012265050
R165	244 2043 937	Metal oxide 10ohm 1W (NB)	C041010065060
R166	244 2043 982	Metal film 0.22ohm 1W (NB)	C060R22065050
R173	963 9003 068	Metal film 4.7ohm 1/4W (NB)	C0604R7063050
R190,191	963 0045 203	Winding 0.1ohm 5W	C144R10069110
R195-197	244 2043 982	Metal film 0.22ohm 1W (NB)	C060R22065050
R201	244 2043 982	Metal film 0.22ohm 1W (NB)	C060R22065050
R208	963 9005 105	Carbon film 68ohm 1/4W	C000068063520
R209	963 0043 108	Metal film 2.2Mohm 1/2W	C060022574000
VR101,102	960 0091 601	Semi fixed resistor 1kohm	C544102015130
CAPACITORS GROUP			
C101,102		Electrolytic 22uF/50V	D040220087060
C103,104		Electrolytic 10uF/50V	D040100087070
C105,106	963 9005 118	Ceramic 100pF/50V	D004101067060
C107,108	963 9003 165	Ceramic 220pF/500V	D009092212500
C109,110		Electrolytic 47uF/25V	D040470084070
C111,112	963 9005 121	Ceramic 33pF/500V	D00033006D050
C115,116	963 9005 134	Ceramic 1200pF/50V	D004122287050
C117,118		Electrolytic 47uF/50V	D040470087060
C119,120	963 9003 084	Ceramic 100pF/500V	D00410106D050
C121,122		Electrolytic 10uF/50V	D040100087070
C123,124	963 9003 084	Ceramic 100pF/500V	D00410106D050
C125,126	963 9004 517	Ceramic 0.022uF/50V	D004223597050
C127-130	963 9003 097	Mylar film 0.1uF/250V	D02010407H080
C135	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C136		Electrolytic 2.2uF/50V	D0402R2087100
C137	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C138,139		Electrolytic 1uF/50V	D040010087080
C140	963 9005 147	Ceramic 0.1uF/25V	D004104594050
C141		Electrolytic 220uF/6.3V	D040221081230
C142	963 9005 147	Ceramic 0.1uF/25V	D004104594050
C143		Electrolytic 220uF/6.3V	D040221081230
C144,145	963 9005 260	Electrolytic 8200uF/63V	D040822088030
C146-150	963 9003 097	Mylar film 0.1uF/250V	D02010407H080
C151		Electrolytic 1uF/50V	D040010087080
C152	963 9005 163	Electrolytic 1000uF/50V	D040102087080
C153-155	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C156	960 9007 201	Electrolytic 3300uF/35V	D040332085010
C157	963 9003 123	Electrolytic 1000uF/35V	D040102085040
C158-161		Electrolytic 10uF/50V	D040100087070
C162		Electrolytic 4.7uF/50V	D0404R7087100
C164	963 9003 136	Electrolytic 1000uF/25V	D040102084060
C167,168		Electrolytic 1uF/50V	D040010087080
⚠C169	963 9005 176	Ceramic 4700pF/250V (AC)	D008472089010
C170	963 9005 299	Electrolytic 100uF/100V	D04010108C200
C171,172	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C173	963 9005 286	Electrolytic 3300uF/16V	D040332083100
C174		Electrolytic 10uF/50V	D040100087070
C176	963 0021 900	Mylar film 0.047uF/100V	D02047306C060

Ref. No.	Part No.	Part Name	Remarks
C301		Electrolytic 10uF/50V	D040100087050
C302,303	963 9005 273	Ceramic 220pF/50V	D004221067060
C304		Electrolytic 10uF/50V	D040100087050
C307,308		Electrolytic 220uF/6.3V	D040221081050
C311,312	963 9005 118	Ceramic 100pF/50V	D004101067060
C313,314	963 9004 779	Mylar film 0.024uF/50V	D020243167050
C315,316	960 9008 695	Mylar film 6800pF/100V	D02068206C060
C317,318		Electrolytic 4.7uF/50V	D0404R7087250
C319,320	963 9004 517	Mylar film 0.022uF/50V	D004223597050
C321-324		Electrolytic 47uF/25V	D040470084100
C325,326	963 9005 118	Ceramic 100pF/50V	D004101067060
C327,328		Electrolytic 4.7uF/50V	D0404R7087250
C329,330		Electrolytic 10uF/50V	D040100087050
C331,332	963 9005 118	Ceramic 100pF/50V	D004101067060
C333,334		Electrolytic 4.7uF/50V	D0404R7087250
C335,336	963 9005 118	Ceramic 100pF/50V	D004101067060
C337,338		Electrolytic 10uF/50V	D040100087050
C339-344	963 9005 118	Ceramic 100pF/50V	D004101067060
C347-349		Electrolytic 1uF/50V	D040010087080

OTHER PARTS GROUP				Q'ty
CN600	963 0086 709	11P connector base	L101100031110	1
CN601	963 0085 700	6P connector base	L101100030610	1
CP101	960 0197 505	2P connector base	L108202000220	1
CP102	960 0123 304	2P connector base	L104353280200	1
CP103	963 0081 403	4P connector base	L104353280400	1
CP104	960 0128 804	6P connector base	L102526700600	1
CP107	960 0123 207	3P connector base	L102526700300	1
CP608	963 0088 008	10P connector base	L101100041010	1
CP609	963 0087 805	11P connector base	L101100041110	1
CP907	963 0048 909	3P connector base	L101220030000	1
⚠F101	960 0188 705	Fuse 8A/125V	G650802121060	1
⚠F102	963 0089 803	Fuse 6.3A/125V	G650632121150	1
F101A,B	960 0005 804	Fuse clip	G645000050010	2
F102A,B	960 0005 804	Fuse clip	G645000050010	2
GND101,102	960 9006 600	GND terminal	3790040876010	2
JACK102	963 0074 009	8P speaker terminal	G61408103610A	1
JACK104	960 0181 508	2P AC outlet	G435204004010	1
JACK301	960 0188 307	6P pin jack	G603060610010	1
JACK302	960 0188 200	4P pin jack	G602040610000	1
JACK303	960 0188 307	6P pin jack	G603060610010	1
L101,102	963 0049 005	Inductor 0.5uH	D330R50000000	2
RLY101	960 0181 702	Relay (G5PA-28)	G680240502020	1
RLY102	963 0071 303	Relay (RSB24S)	G680240202010	1
RLY103	960 0181 702	Relay (G5PA-28)	G680240502020	1

Ref. No.	Part No.	Part Name	Remarks	Q'ty
RLY104	960 0181 605	Relay (G5PA-1-8)	G680120502010	1
⚠T101	960 0185 708	Power trans. (Sub)	8200280960010	1
TP101,102	960 0161 405	3P connector base	L101530140310	2
★	—	Heat sink	2120043538050	1
★	963 0018 007	Screw 3×8 (B)-Z	B020030081B10	2
★	963 0090 009	Shield plate	3070210146000	1

FRONT P.W.B. UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC601	960 0133 307	IC KIC9459F	J084945900010
IC602	963 0043 506	IC TC9184AP	J080918400010
IC603	960 0179 604	IC M62446FP	J084624460010
IC604	960 0195 400	IC PC74HC4094D	J040744094020
IC605-610	960 0179 701	IC NJM2068DD	J121206800000
IC900	963 0090 106	IC CXP82840-319Q	J020828403190
Q600-607	960 0196 603	Transistor KTC2874B	J502287400010
Q610,611	963 0075 309	Transistor DTA114ES	J6000114E0010
Q612	963 0022 006	Transistor DTC114YS	J6020114Y0050
Q900	960 0196 409	Transistor 2SC1740SR	J5021740S0010
Q901	963 0075 503	Transistor DTC144ES	J6020144E0010
Q902-904	963 0081 306	Transistor DTC114ES	J6020114E0010
Q905,906	960 0196 409	Transistor 2SC1740SR	J5021740S0010
Q907	963 0081 209	Transistor DTA144ES	J6000144E0010
Q908,909	960 0196 603	Transistor KTC2874B	J502287400010
D601,602	963 0020 309	Diode 1SS133	K000013300520
D603	963 0058 407	Diode 1N4007	K000400700520
D900-902	963 0020 309	Diode 1SS133	K000013300520
D903	963 0058 407	Diode 1N4007	K000400700520
D904-907	963 0020 309	Diode 1SS133	K000013300520
DZ900,901	960 0095 607	Zener diode MTZJ5.6B	K06005R644520
DZ902	963 0047 502	Zener diode MTZJ3.3B	K06003R344520
DZ903	960 0095 801	Zener diode MTZJ6.8B	K06006R844520
ZD900,901	960 0222 603	Zener diode MTZJ7.5A	K06007R544530
LED900-904	960 0197 204	LED HL50RDRF4T	K500052015010
FL900	960 0180 509	FLT (16-ST-42GNK)	K530164200010
RESISTORS GROUP			
R657,658	960 9003 700	Metal film 10ohm 1/4W (NB)	C060010063050
R714,715	244 2052 960	Metal film 220ohm 1W (NB)	C060022165050
R736	960 9004 301	Metal film 47ohm 1/4W (NB)	C060047063050
R912-914	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R926-928	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R930-932	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R936-949	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R951	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R953-955	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R958	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R960-966	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R968-970	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R973	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160

Ref. No.	Part No.	Part Name	Remarks
R977-980	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R982	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R985-987	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R990,991	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R993	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R995	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
CAPACITORS GROUP			
C600,601		Electrolytic 4.7uF/50V	D0404R7087100
C602,603	963 9005 192	Mylar film 1500pF/100V	D02015206C060
C604,605	963 9005 202	Mylar film 0.1uF/50V	D020104167050
C606,607		Electrolytic 47uF/25V	D040470084070
C608,609	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C610-612	963 9005 118	Ceramic 100pF/50V	D004101067060
C613-616		Electrolytic 10uF/50V	D040100087050
C617,618	963 9005 215	Ceramic 39pF/50V	D000390067050
C619,620		Electrolytic 2.2uF/50V	D0402R208710C
C621,622	963 9005 118	Ceramic 100pF/50V	D004101067060
C623,624		Electrolytic 3.3uF/50V	D0403R308705C
C625,626	963 9005 228	Ceramic 47pF/50V	D000470067050
C627,628		Electrolytic 4.7uF/50V	D0404R7087100
C629,630	960 9008 695	Mylar film 6800pF/100V	D02068206C060
C631,632	963 9003 409	Mylar film 0.01uF/50V	D020103167050
C633,634	963 9005 231	Mylar film 0.056uF/50V	D020563067050
C635,636	960 9003 302	Mylar film 3300pF/50V	D020332167050
C637,638		Electrolytic 10uF/50V	D040100087050
C639,640	963 9000 155	Mylar film 0.22uF/63V	D020224078060
C641,642	963 9003 409	Mylar film 0.01uF/50V	D020103167050
C645		Electrolytic 10uF/50V	D040100087050
C648		Electrolytic 10uF/50V	D040100087050
C649-652		Electrolytic 4.7uF/50V	D0404R7087100
C659,660		Electrolytic 3.3uF/50V	D0403R308705C
C661,662		Electrolytic 22uF/25V	D04022008405C
C663,664		Electrolytic 4.7uF/50V	D0404R7087100
C665,666	963 9005 244	Ceramic 150pF/50V	D000151067060
C667,668		Electrolytic 10uF/50V	D040100087050
C669,670		Electrolytic 4.7uF/50V	D0404R7087100
C671,672	963 9005 244	Ceramic 150pF/50V	D000151067060
C673-675		Electrolytic 10uF/50V	D040100087050
C676		Electrolytic 100uF/25V	D040101084060
C677		Electrolytic 4.7uF/50V	D0404R7087100
C678,679	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C680		Electrolytic 100uF/25V	D040101084060
C681,682		Electrolytic 4.7uF/50V	D0404R7087100
C683	963 9005 118	Ceramic 100pF/50V	D004101067060
C684,685		Electrolytic 0.1uF/100V	D0400R108C00C
C686	963 9005 121	Ceramic 33pF/50V	D000330067050
C687	963 9005 118	Ceramic 100pF/50V	D004101067060
C688		Electrolytic 47uF/25V	D040470084070
C689-698	963 9005 118	Ceramic 100pF/50V	D004101067060
C699,700	963 9005 257	Mylar film 0.022uF/50V	D020223167050

Ref. No.	Part No.	Part Name	Remarks
C701-712		Electrolytic 10uF/50V	D040100087050
C713		Electrolytic 47uF/25V	D040470084070
C714		Electrolytic 100uF/35V	D04010108505C
C900	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C901		Electrolytic 1uF/50V	D040010087080
C902		Electrolytic 47uF/25V	D040470084070
C903	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C904-909	963 9004 575	Ceramic chip 100pF/50V	D010101167160
C910	963 9004 708	Ceramic chip 0.1uF/50V	D011104577160
C911	963 0061 504	Back up cap. 8200uF/5.5V	D040822080010
C912	963 9004 708	Ceramic chip 0.1uF/50V	D011104577160
C913		Electrolytic 4.7uF/50V	D0404R7087100
C914,915	963 9004 698	Ceramic chip 0.01uF/50V	D011103777160
C916	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C918	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C919		Electrolytic 47uF/50V	D040470087060
C920	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C932		Electrolytic 100uF/50V	D040101087060
C933,934		Electrolytic 33uF/16V	D04033008305C
OTHER PARTS GROUP			**Q'ty**
CN900	963 0089 706	3P connector cord (L=100)	L000101030070 1
CP600	963 0087 805	11P connector base	L101100041110 1
CP601	963 0087 009	6P connector base	L101100040610 1
CP602	960 0128 700	13P connector base	L101353361310 1
CP603	963 0088 008	10P connector base	L101100041010 1
CP604	963 0071 206	23P FFC connector base	L131520452345 1
CP605	963 0087 805	11P connector base	L101100041110 1
CP607,608	963 0087 805	11P connector base	L101100041110 2
CP901	963 0071 109	23P FFC connector base (L)	L131520442345 1
CP902	963 0049 102	3P connector base (L)	L102526803010 1
L900	960 0128 008	Inductor 100uH	D330101001020 1
REM900	960 0181 100	Remocon sensor NJL64H380A	E940643800000 1
RLY600	963 0071 303	Relay (RSB24S)	G680240202010 1
SW900-923	963 0045 708	Tact switch	G180000270010 24
SW924	960 0181 207	Rotary encoder (EC16B2420431)	G121162420400 1
XTAL900	960 0112 001	Ceramic resonator	CST10.0MGW-TF01 E830100000050 1
★	960 0184 408	FLT holder	4320200026000 1

TUNER P.W.B. UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC401	963 0043 700	IC LC72131	J120721310030
IC402	963 0043 904	IC LA1266	J124126600010
IC403	963 0044 000	IC LA3401	J124340100010
IC501	960 0175 200	IC BA7625	J171762500000
IC502	960 0174 104	IC CXA1511M	J030151100010
Q401	963 0058 300	Transistor KTC3880S	J5223880O0210
Q402	963 0079 305	Transistor DTA114YK	J5200114Y0210
Q403,404	963 0058 203	Transistor DTA114EK	J5200114E0210
Q405,406	960 0196 603	Transistor KTC2874B	J502287400010
Q407	963 0024 208	Transistor DTC114YK	J5220114Y0210
Q408	963 0058 203	Transistor DTA114EK	J5200114E0210
Q502-505	960 0005 105	Transistor KTA1266Y	J5001266Y0050
Q510,511	963 0022 006	Transistor DTC114YS	J6020114Y0050
Q512	963 0081 209	Transistor DTA144ES	J6000144E0010
Q550	963 0075 309	Transistor DTA114ES	J6000114E0010
D403	960 0197 000	Diode KDS160	K005016000010
D404	963 0020 309	Diode 1SS133	K000013300520
D405,406	960 0197 000	Diode KDS160	K005016000010
D501-504	963 0020 309	Diode 1SS133	K000013300520
D550	963 0058 407	Diode 1N4007	K000400700520
D551	963 0020 309	Diode 1SS133	K000013300520
D552	963 0058 407	Diode 1N4007	K000400700520
DZ401	960 0095 500	Zener diode MTZJ5.1B	K06005R144520
DZ501	960 0095 704	Zener diode MTZJ6.2B	K06006R244520
RESISTORS GROUP			
R401	963 9004 821	Carbon chip 10ohm 1/16W	C20001006M160
R403	963 9004 339	Carbon chip 470ohm 1/16W	C20004716M160
R404	963 9004 083	Carbon chip 100kohm 1/16W	C20001046M160
R405	960 9003 807	Metal film 100ohm 1/4W (NB)	C060010163050
R406	963 9004 342	Carbon chip 4.7kohm 1/16W	C20004726M160
R407	963 9004 339	Carbon chip 470ohm 1/16W	C20004716M160
R408	963 9004 119	Carbon chip 1.2kohm 1/16W	C20001226M160
R409	963 9004 339	Carbon chip 470ohm 1/16W	C20004716M160
R411		Carbon chip 68kohm 1/16W	C20006836M160
R412	963 9004 834	Carbon chip 5.6kohm 1/16W	C20005626M160
R413	960 9006 503	Metal film 220ohm 1/4W (NB)	C060022163050
R414	963 9004 216	Carbon chip 2.2kohm 1/16W	C20002226M160
R415	963 9003 398	Carbon chip 1kohm 1/16W	C20001026M160
R416		Metal film 680ohm 1/4W (NB)	C060068163050
R417	963 9003 398	Carbon chip 1kohm 1/16W	C20001026M160
R418	963 9004 274	Carbon chip 33kohm 1/16W	C20003336M160
R420	963 9004 847	Carbon chip 3.3kohm 1/16W	C20003326M160
R426,427	963 9004 070	Carbon chip 10kohm 1/16W	C20001036M160

Ref. No.	Part No.	Part Name	Remarks
R428	963 9004 847	Carbon chip 3.3kohm 1/16W	C20003326M160
R429	963 9004 850	Carbon chip 82ohm 1/16W	C20008206M160
R430	963 9003 807	Metal film 100ohm 1/4W (NB)	C060010163050
R431	963 9004 371	Carbon chip 5.1kohm 1/16W	C20005126M160
R432	963 9004 070	Carbon chip 10kohm 1/16W	C20001036M160
R434	963 9003 807	Metal film 100ohm 1/4W (NB)	C060010163050
R435	963 9004 847	Carbon chip 3.3kohm 1/16W	C20003326M160
R437-439	963 9004 083	Carbon chip 100kohm 1/16W	C20001046M160
R440,441	963 9004 863	Carbon chip 120kohm 1/16W	C20001246M160
R442,443	963 9004 847	Carbon chip 3.3kohm 1/16W	C20003326M160
R444,445	963 9004 481	Carbon chip 8.2kohm 1/16W	C20008226M160
R448	963 9004 216	Carbon chip 2.2kohm 1/16W	C20002226M160
R455	963 9004 876	Carbon chip 330ohm 1/16W	C20003316M160
R456	963 9003 385	Carbon chip 100ohm 1/16W	C20001016M160
R458,459	963 9004 342	Carbon chip 4.7kohm 1/16W	C20004726M160
R460-464	963 9004 083	Carbon chip 100kohm 1/16W	C20001046M160
R465-469	963 9004 203	Carbon chip 220ohm 1/16W	C20002216M160
R470	963 9003 398	Carbon chip 1kohm 1/16W	C20001026M160
R471VT	963 9004 203	Carbon chip 220ohm 1/16W	C20002216M160
R473	963 9003 372	Carbon chip 0ohm 1/16W	C20000006M160
R475	963 9004 122	Carbon chip 12kohm 1/16W	C20001236M160
R476	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R478	963 9004 070	Carbon chip 10kohm 1/16W	C20001036M160
R479	963 9004 083	Carbon chip 100kohm 1/16W	C20001046M160
R491	963 9004 229	Carbon chip 22kohm 1/16W	C20002236M160
R1024,1025	963 0048 006	Metal film 330ohm 2W	C060033166520
VR401	960 0096 606	Semi fixed resistor 20kohm	C541203115000
VR402	963 0056 205	Semi fixed resistor 50kohm	C541503115000
VR403	963 0052 005	Semi fixed resistor 200kohm	C541204115000
CAPACITORS GROUP			
C401,402	963 9004 685	Ceramic chip 1000pF/50V	D011102777160
C403	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C404	963 9004 892	Ceramic 2pF/50V	D000020007050
C405	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C406	963 9004 902	Ceramic chip 18pF/50V	D010180167160
C408	960 9004 709	Ceramic 6pF/50V	D000060007050
C409	963 9004 520	Ceramic 100pF/50V	D005101177520
C410	963 9004 915	Ceramic 470pF/50V	D005471277520
C411	963 9004 685	Ceramic chip 1000pF/50V	D011102777160
C412	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C413	963 9004 575	Ceramic chip 100pF/50V	D010101167160
C414		Electrolytic 2.2uF/50V	D0402R2087100
C415		Electrolytic 47uF/25V	D040470084070
C416		Electrolytic 10uF/50V	D040100087050
C417		Electrolytic 100uF/16V	D040101083100
C418	963 9004 698	Ceramic chip 0.01uF/50V	D011103777160
C419		Electrolytic 10uF/50V	D040100087050
C420	963 9004 591	Ceramic chip 22pF/50V	D010220167160
C421	963 9004 928	Ceramic chip 24pF/50V	D010240167200

Ref. No.	Part No.	Part Name	Remarks
C422	963 9004 656	Ceramic chip 470pF/50V	D010471167160
C423,424	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C425		Electrolytic 4.7uF/50V	D0404R7087100
C426		Electrolytic 3.3uF/50V	D0403R3087100
C427		Electrolytic 4.7uF/50V	D0404R7087100
C428	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C430	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C431	963 9004 627	Ceramic chip 33pF/50V	D010330167160
C432		Electrolytic 47uF/25V	D040470084070
C433	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C434		Electrolytic 1uF/50V	D040010087080
C435,436	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C437		Electrolytic 47uF/25V	D040470084070
C438		Electrolytic 1uF/50V	D040010087080
C439		Electrolytic 0.22uF/50V	D040R22087100
C440,441		Electrolytic 1uF/50V	D040010087080
C442		Electrolytic 2.2uF/50V	D0402R2087100
C443		Electrolytic 10uF/50V	D040100087050
C444		Electrolytic 4.7uF/50V	D0404R7087100
C445		Electrolytic 10uF/50V	D040100087050
C446,447	963 9005 053	Ceramic 270pF/50V	D004271277050
C448,449	963 9004 960	Ceramic 470pF/50V	D004471067060
C450,451		Electrolytic 10uF/50V	D040100087050
C452	963 9004 575	Ceramic chip 100pF/50V	D010101167160
C453	963 9004 614	Ceramic chip 27pF/50V	D010270167160
C454,455	963 9004 575	Ceramic chip 100pF/50V	D010101167160
C456	963 9004 672	Ceramic chip 680pF/50V	D010681167160
C457,458	963 9004 575	Ceramic chip 100pF/50V	D010101167160
C459		Electrolytic 1uF/50V	D040010087080
C461	963 9004 591	Ceramic chip 22pF/50V	D010220167160
C463	963 9004 782	Mylar film 0.056uF/100V	D02056306C060
C464	963 9004 973	Ceramic 3pF/50V	D000030007050
C465-469		Electrolytic 10uF/50V	D040100087050
C470		Electrolytic 1uF/50V	D040010087080
C471VT		Electrolytic 1uF/50V	D040010087080
C472VT	963 9004 753	Ceramic chip 0.047uF/50V	D011473597160
C501-503		Electrolytic 4.7uF/50V	D0404R7087100
C504,505		Electrolytic 470uF/10V	D040471082060
C506-508		Electrolytic 10uF/50V	D040100087050
C509		Electrolytic 100uF/10V	D040101082060
C510		Electrolytic 470uF/10V	D040471082060
C511		Electrolytic 1uF/50V	D040010087080
C512	963 9004 517	Ceramic 0.022uF/50V	D004223597050
C513		Electrolytic 47uF/25V	D040470084070
C514	960 9008 653	Mylar film 0.012uF/100V	D02012306C060
C515		Electrolytic 1uF/50V	D040010087080
C516	960 9008 653	Mylar film 0.012uF/100V	D02012306C060
C517	963 9005 118	Ceramic 100pF/50V	D004101067060
C518	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C519		Electrolytic 1uF/50V	D040010087080
C520		Electrolytic 470uF/10V	D040471082060

Ref. No.	Part No.	Part Name	Remarks	Q'ty
C521	963 9004 504	Ceramic 0.01uF/50V	D004103097060	
C550		Electrolytic 0.1uF/50V	D040R10087070	
C551		Electrolytic 100uF/25V	D040101084060	
C928,929	963 9004 533	Ceramic 1000pF/50V	D005102177530	
C930	960 9003 108	Ceramic 0.022uF/25V	D005223594520	
C931		Electrolytic 1uF/50V	D040010087080	
OTHER PARTS GROUP				**Q'ty**
CF401,402	960 0187 104	Ceramic filter	SFE10.7MA8	2
			E430107000140	
CF403	960 0187 609	Ceramic resonator	BFU450C	1
			E830450000070	
CN602	960 0129 706	13P connector base	L101352371310	1
CN603	963 0085 409	10P connector base	L101100031010	1
CN605	963 0086 709	11P connector base	L101100031110	1
CN606,607	963 0086 709	11P connector base	L101100031110	2
CN608	963 0085 409	10P connector base	L101100031010	1
CN609	963 0086 709	11P connector base	L101100031110	1
CN902	963 0049 908	3P connector base	L101220030010	1
CN907	963 0089 308	3P connector cord (L=400)	L000401030020	1
CP900	963 0086 000	2P connector cord (L=80)	L000800020060	1
CP906	963 0048 909	3P connector base	L101220030000	1
FE401	960 0187 706	Tuner pack	E900401010020	1
G401	—	1P Wire (L=80)	8410800010010	1
G901	—	1P Wire (L=80)	8410800010010	1
HAJACK900	960 0187 502	Headphone jack (D6.5)	G402038400031	1
J401-404	963 9003 369	Carbon chip 0ohm 1/8W	C200000061300	4
J407	963 9003 369	Carbon chip 0ohm 1/8W	C200000061300	1
J409	963 9003 369	Carbon chip 0ohm 1/8W	C200000061300	1
JACK401,402	960 0188 200	4P pin jack	G602040610000	1
JACK403	960 0194 508	1P pin jack	G600010003020	1
JACK404	963 0052 403	3P antenna terminal	G593021068010	1
JACK501,502	960 0194 605	2P pin jack	G601020163010	2
JACK503	960 0188 404	3P pin jack	G606030164020	1
JACK504	963 0071 002	Mini jack	G401065020000	1
L401,402	963 0052 102	Inductor 1uH	D3301R0001020	2
L403	963 0056 409	MW IFT (RBW07VB-K5025)	D950500500010	1
SW926	963 0045 708	Tact switch	G180000270010	1
SW928	963 0045 708	Tact switch	G180000270010	1
SW929	960 0176 209	Push switch	G000122000010	1
SW931	963 0045 708	Tact switch	G180000270010	1
SW933	963 0045 708	Tact switch	G180000270010	1

Ref. No.	Part No.	Part Name	Remarks	Q'ty
SW935	963 0045 708	Tact switch	G180000270010	1
SW937,938	963 0045 708	Tact switch	G180000270010	2
T401	960 0186 600	MW IFT (PCFMAF-270)	D950500200000	1
T402	960 0007 349	FM DET trans.	D951561100000	1
T403	960 0007 352	FM DET trans.	D951561200000	1
X401	960 0187 405	Crystal 7.2MHz	E8007R2000071	1
X402	963 0043 302	Ceramic resonator	CSB456F11	1
			E830456000050	
★	963 0054 003	Shield cover	3070210056000	1
★	963 0088 406	Earth plate C	4470210206000	1
★	960 0184 000	Screw bracket	4010210196000	2

EXPLODED VIEW

1 2 3 4 5 6 7 8

A B C D E

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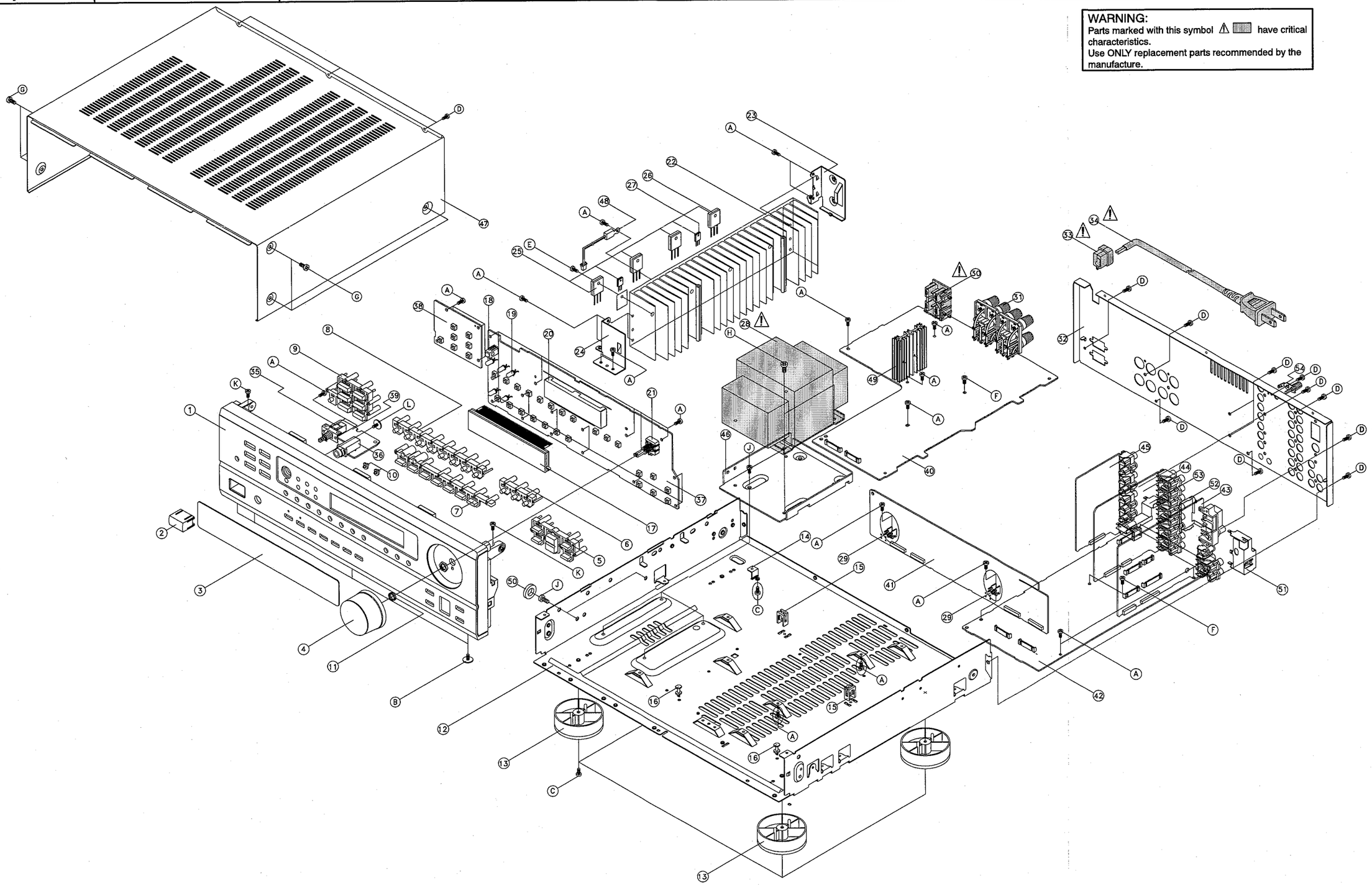


PARTS LIST OF EXPLODED VIEW

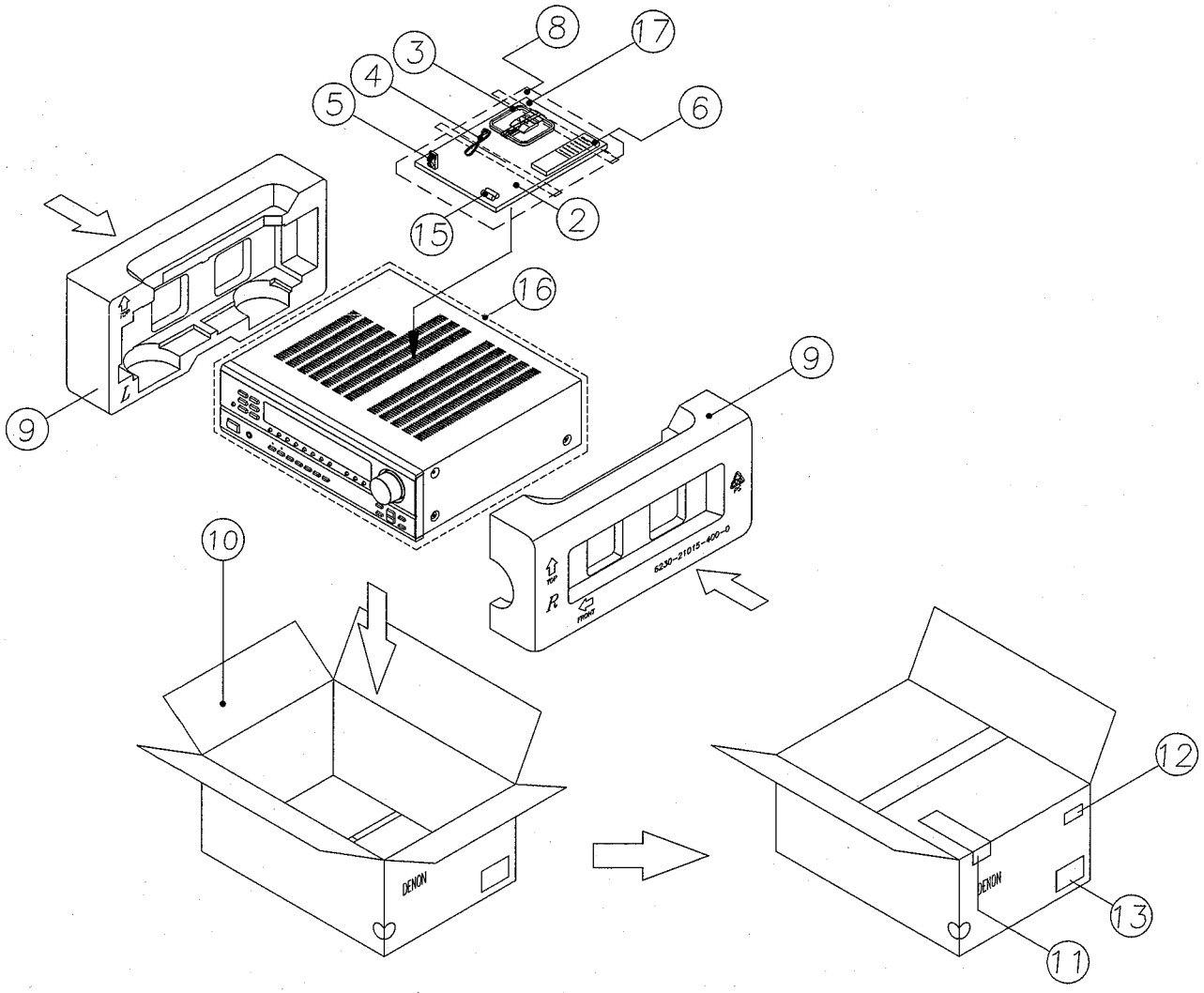
Ref. No.	Part No.	Part Name	Remarks	Q'ty
—	963 0080 200	Main P.W.B. unit Ass'y	7025HK0010010	1
40		Main P.W.B. unit		
44		Input P.W.B. unit		
—	963 0080 307	Front P.W.B. unit Ass'y	7025HK0010011	1
37		Front P.W.B. unit		
42		Volume P.W.B. unit		
—	963 0080 404	Tuner P.W.B. unit Ass'y	7025HK0010012	1
38		Switch P.W.B. unit		
39		Power SW/HP P.W.B. unit		
41		Connector P.W.B. unit		
43		Tuner P.W.B. unit		
45		Video P.W.B. unit		
1	963 0076 201	Front panel	3067210651200Z	1
2	960 0185 009	Power button	5090210201000Z	1
3	963 0076 609	Display window	5077210262030	1
4	963 0054 906	Volume knob	5087210191010Z	1
5	963 0053 703	5key button	5097210471000Z	1
6	963 0053 606	3key button	5090210511000Z	1
7	963 0089 900	7(A)key button	5090210491201Z	1
8	963 0053 509	8key button	5090210501000Z	1
9	963 0076 803	7(B)key button	5090211331000Z	1
10	960 0191 417	LED lens	3710210043001	2
11	963 0051 006	Knob spring	3720210116000	1
12	960 0198 229	Main chassis	3200210146301	1
13	960 0183 904	Foot Ass'y	400802006101C	4
14	960 0184 107	Support bracket	4010210206000	1
15	960 0003 301	P.W.B. support	4070001601010	2
16	963 0051 103	Card spacer	4300210062000	2
17	960 0180 509	FLT (16-ST-42GNK)	FL900	1
			K530164200010	
18	960 0181 100	Remocon sensor NJL64H380A	REM900	1
			E940643800000	
19	960 0197 204	LED HL50RDRF4T	LED900-904	5
			K500052015010	
20	960 0184 408	FLT holder	4320200026000	1
21	960 0181 207	Rotary encoder (EC16B2420431)	SW924	1
			G121162420400	
22	—	Heat sink (main)	2120210298000Z	1
23	960 0184 204	Heat sink bracket B	4010210386000	1
24	960 0184 301	Heat sink bracket F	4010210396000	1
25	963 0044 107	Transistor 2SB1560Y	Q113,114	2
			J5011560Y0000	
26	963 0044 204	Transistor 2SD2390Y	Q111,112	2
			J5032390Y0000	
27	963 0058 106	Transistor 2SD947F	Q109,110	2
			J503947F00000	
⚠ 28	963 0080 501	Power trans.	8200858680020	1
29	960 0184 000	Screw bracket	4010210196000	2
⚠ 30	960 0181 508	2P AC outlet	JACK104	1
			G435204004010	

Ref. No.	Part No.	Part Name	Remarks	Q'ty
31	963 0074 009	8P speaker terminal	JACK102	1
			G61408103610A	
32	963 0076 405	Back panel	3207210766500	1
⚠ 33	960 0192 403	Cord bush	4380210002000	1
⚠ 34	960 0166 400	AC cord	L068020030010	1
35	960 0176 209	Push switch	SW929	1
			G000122000010	
36	960 0187 502	Headphone jack (D6.5)	G402038400031	1
46	963 0072 205	Trans bracket	4010210466001	1
47	963 0053 017	Top cover	3000210096001	1
48	960 0187 900	Posistor P43T7D330BW16	F320161001020	1
49	—	Heat sink	2120043538050	1
50	963 0072 302	Rubber cushion	4050210165000	2
51	963 0054 003	Shield cover	3070210056000	1
52	963 0088 406	Earth plate C	4470210206000	1
53	960 0090 009	Shield plate	3070210146000	1
54	960 0183 807	Terminal	3790000090000	1
★ 55	963 0089 104	Rubber sheet	1210210235000	3
★ 56	960 0155 301	Wire clamper	4330040343010	4
★ 57	963 0054 207	Fuse caution label	5527042410020	1
★ 58	963 0089 007	FFC cable	CP901	1
			L301171230010	

SCREWS

A	963 0018 007	Screw 3×8 (B)-Z	B020030081B10	44
B	960 9008 527	Screw 3×8 (B) W-B	1500001456020	4
C	963 0048 200	Screw 3×10 (B)-Z	B020030101B10	5
D	960 0108 714	Screw 3×10 (B)-B	B020030103B11	28
E	963 9004 009	Screw 3×14 (P) SW W-Z	B018230141H10	6
F	963 0018 104	Screw 3×17 (B)-Z	B020030171B10	2
G	963 0048 307	Screw 4×8 (B)-B	1500040083B10	6
H	960 9008 417	Screw 4×8 (P) SW W-Z	B028940081B10	4
J	963 9004 025	Screw 4×6 (S)-Z	B020740061B10	6
K	963 9004 038	Screw 3×8 (B) W-Z	1500001206010	2
L	960 9008 420	Screw 3×8 (B) W-Z	1500001456010	1

PACKING VIEW

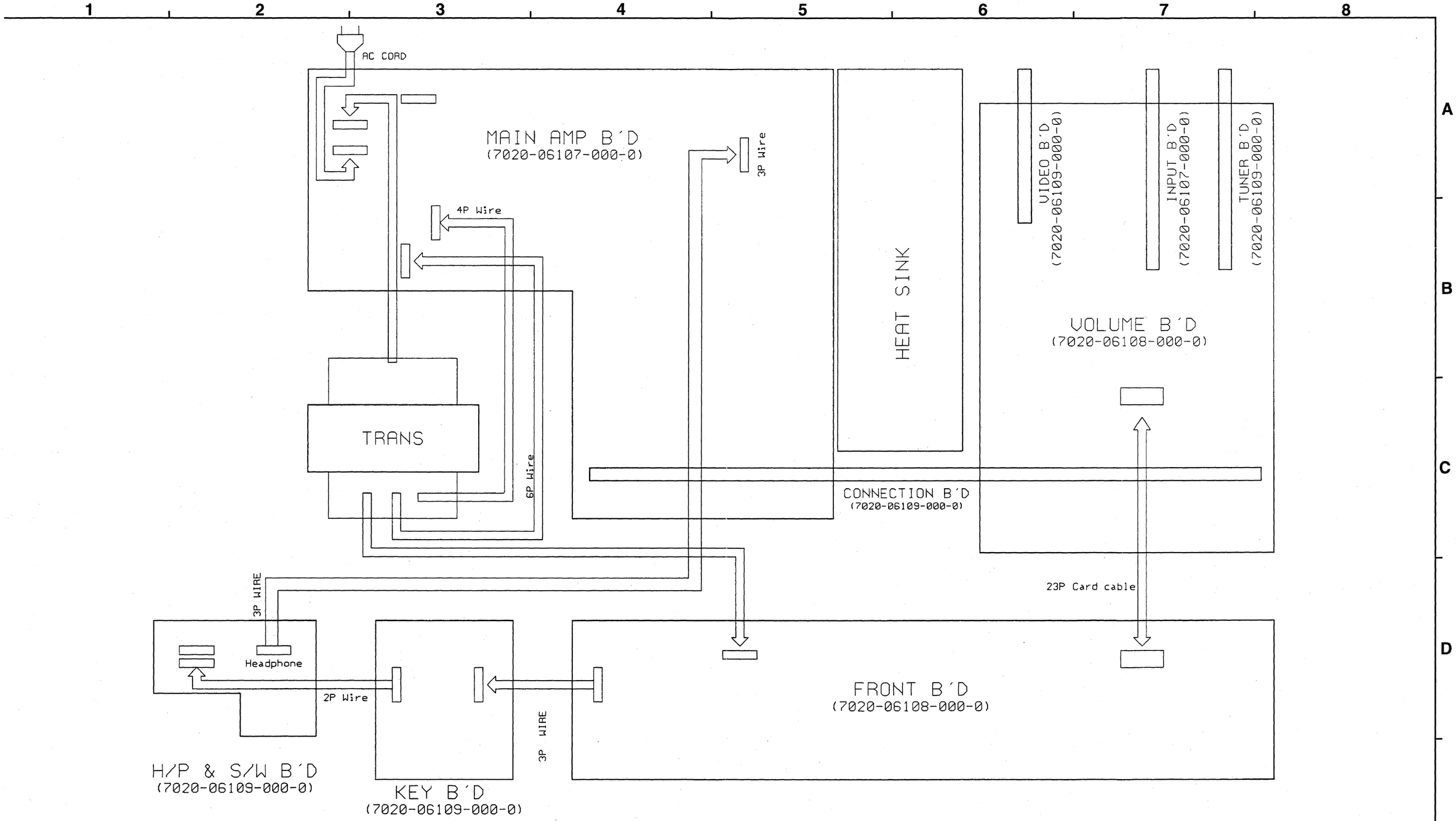


PARTS LIST OF PACKING & ACCESSORIES

Ref. No.	Part No.	Part Name	Remarks	Q'ty
2	963 0080 006	Instruction manual	5707210170270	1
3	963 0052 306	AM loop antenna	E605010090000	1
4	963 0081 102	FM antenna wire	E605010010000	1
5	963 0052 704	FM antenna adapter	L109000180010	1
6	963 0081 908	Remote control unit RC-894	8300894000010	1
8	963 0045 106	Poly bag	6330000240000	1
9	963 0193 101	Cushion (L/R)	6230210154001	1

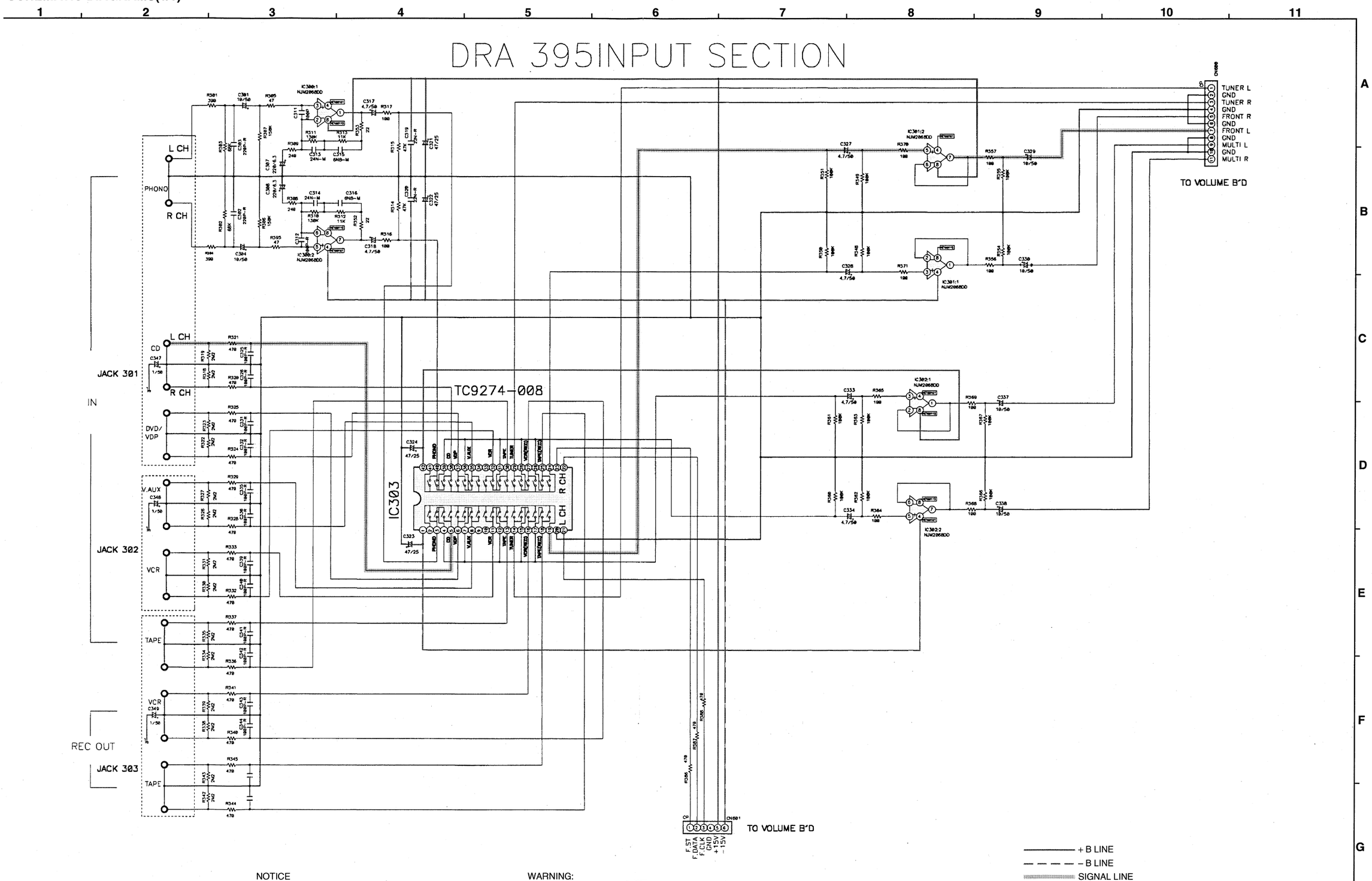
Ref. No.	Part No.	Part Name	Remarks	Q'ty
10	963 0080 103	Carton case	6007210310030	1
11	—	DEL warranty home	5777001610020	1
12	—	UPC label	5507002330110	1
13	—	Control label	5500014920010	2
15	—	Battery (R03/AAA)	G670011R50000	2
16	960 0185 601	Set poly bag	6330210019000	1
17	—	S.S. list (EX)	5777001620012	1

WIRING DIAGRAM



DRA-395 WIRING DIAGRAM

SCHEMATIC DIAGRAMS(1/6)



NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

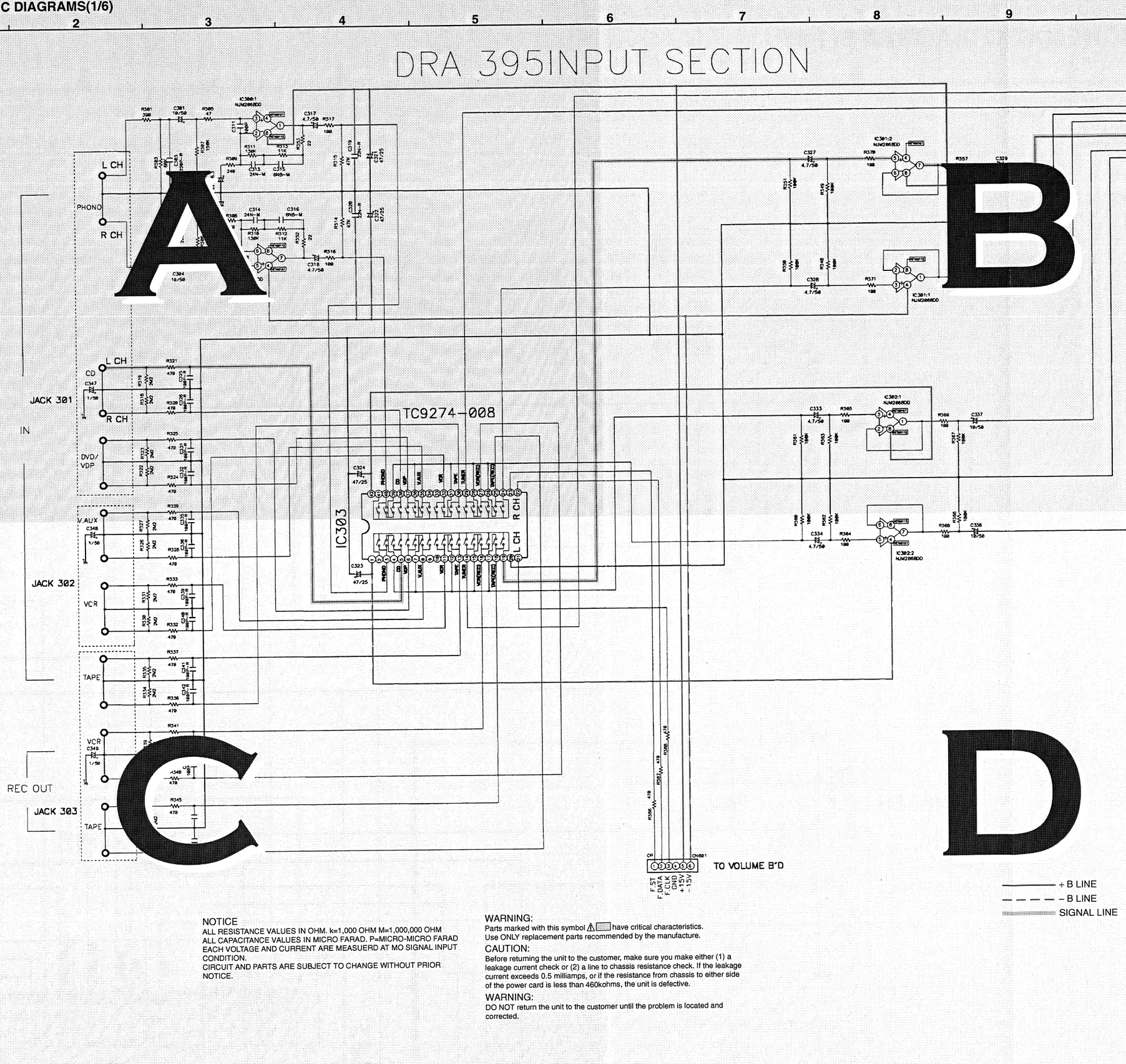
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAMS(1/6)
INPUT UNIT

SCHEMATIC DIAGRAMS(1/6)

DRA 395INPUT SECTION



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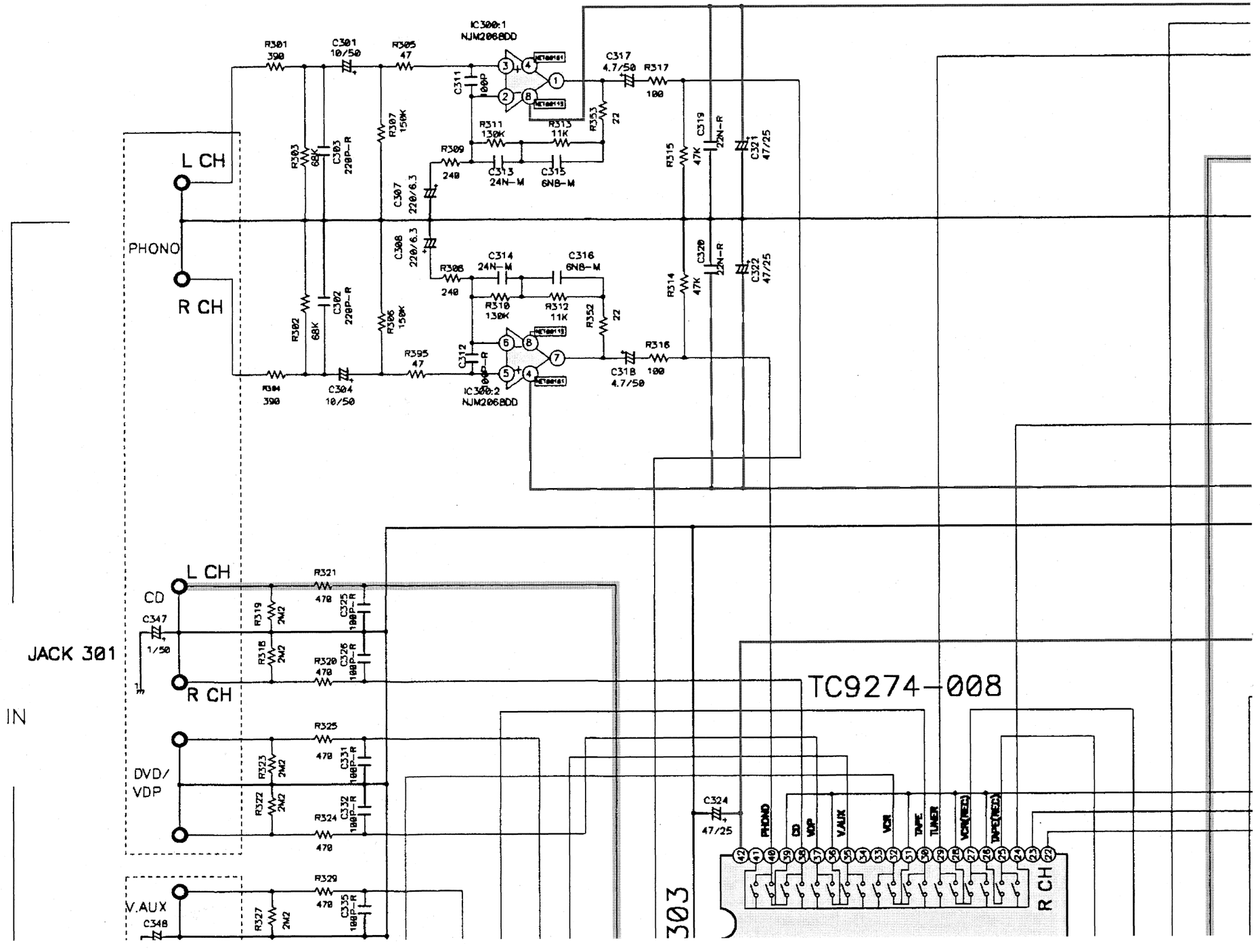
SCHEMATIC DIAGRAMS(1/6)
INPUT UNIT

SCHEMATIC DIAGRAMS(1/6)

1 2 3 4 5 6

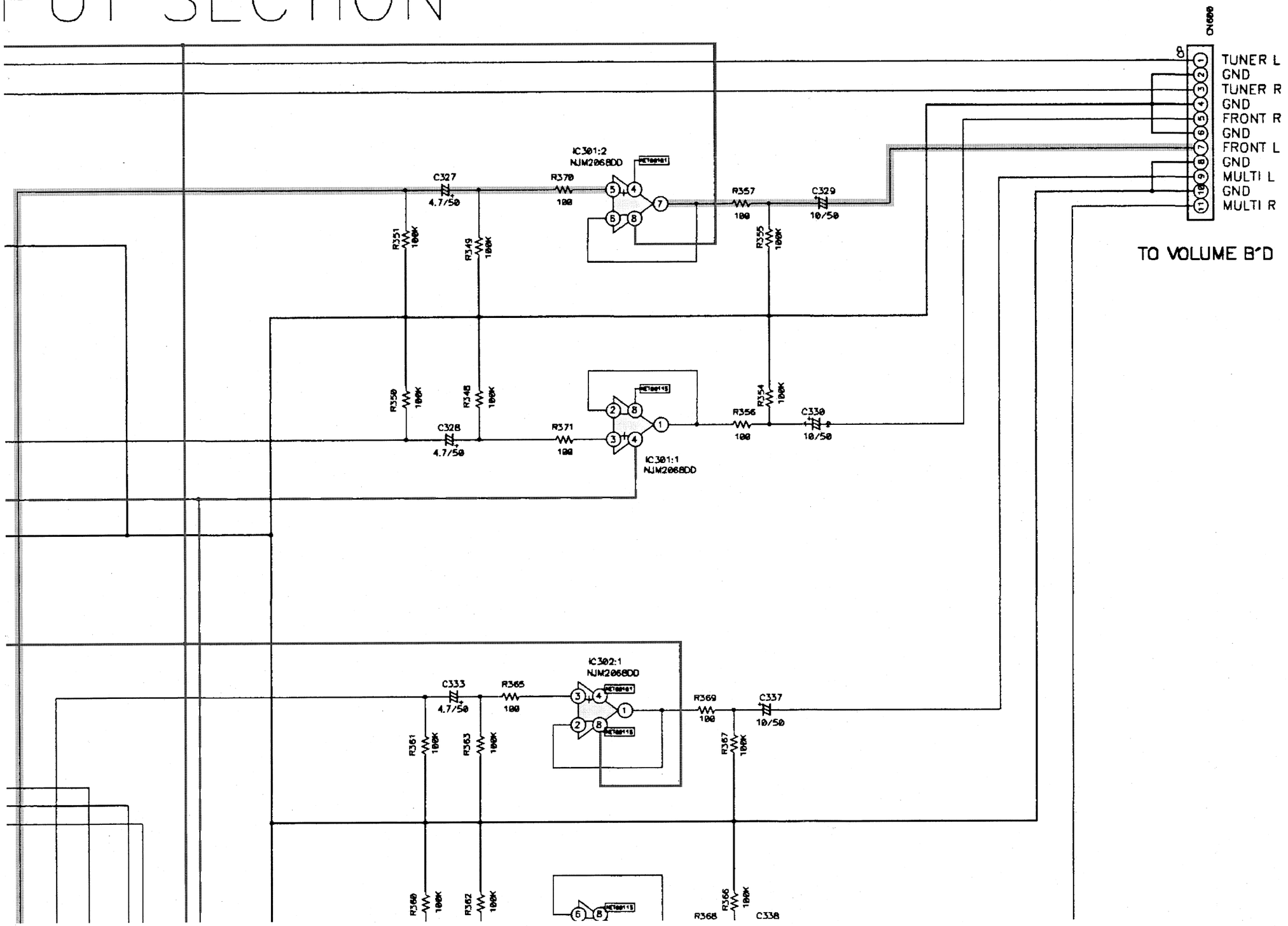
DRA 395INPU

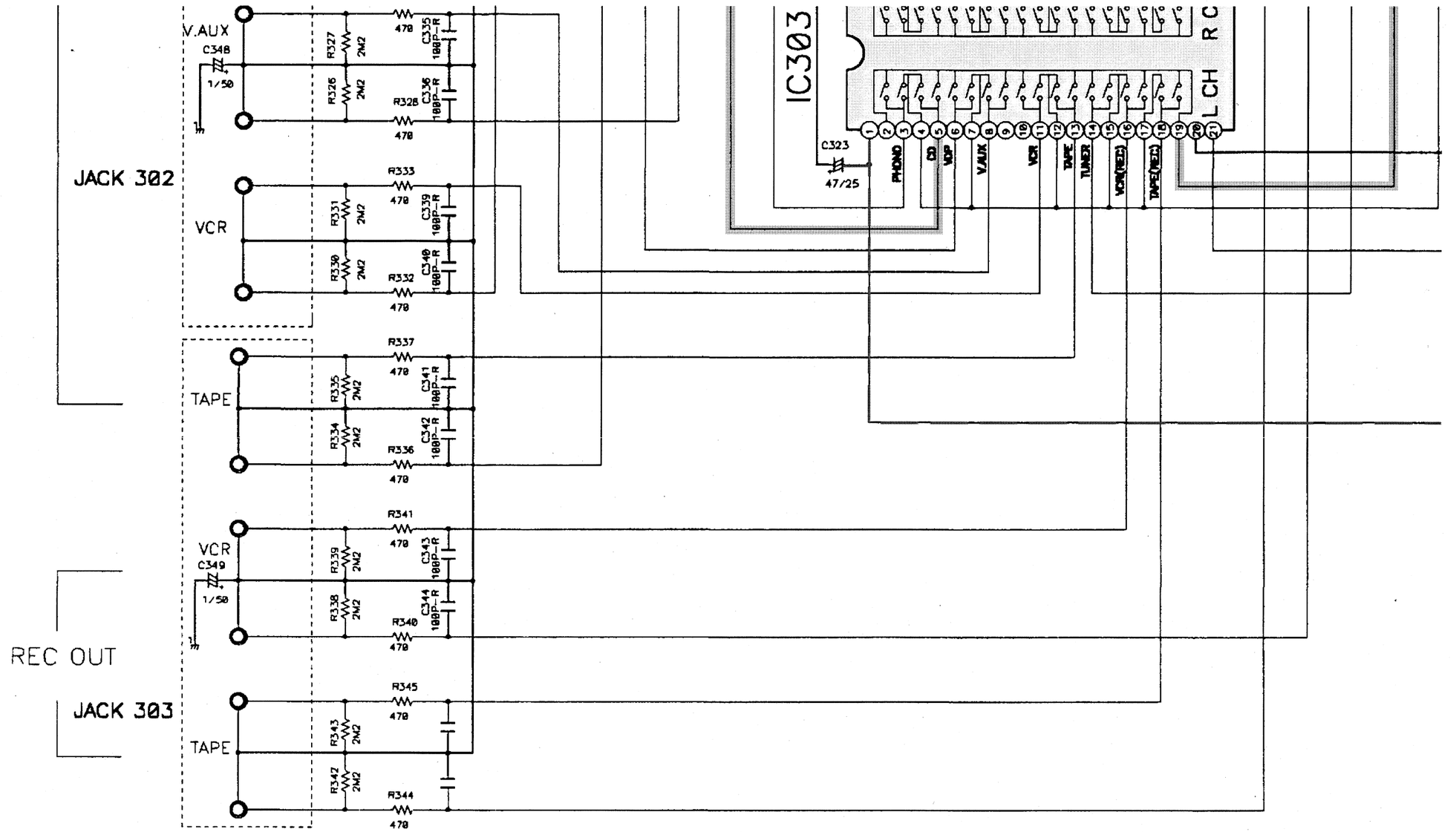


6 7 8 9 10 11

PUT SECTION

A B C D





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WARNING:

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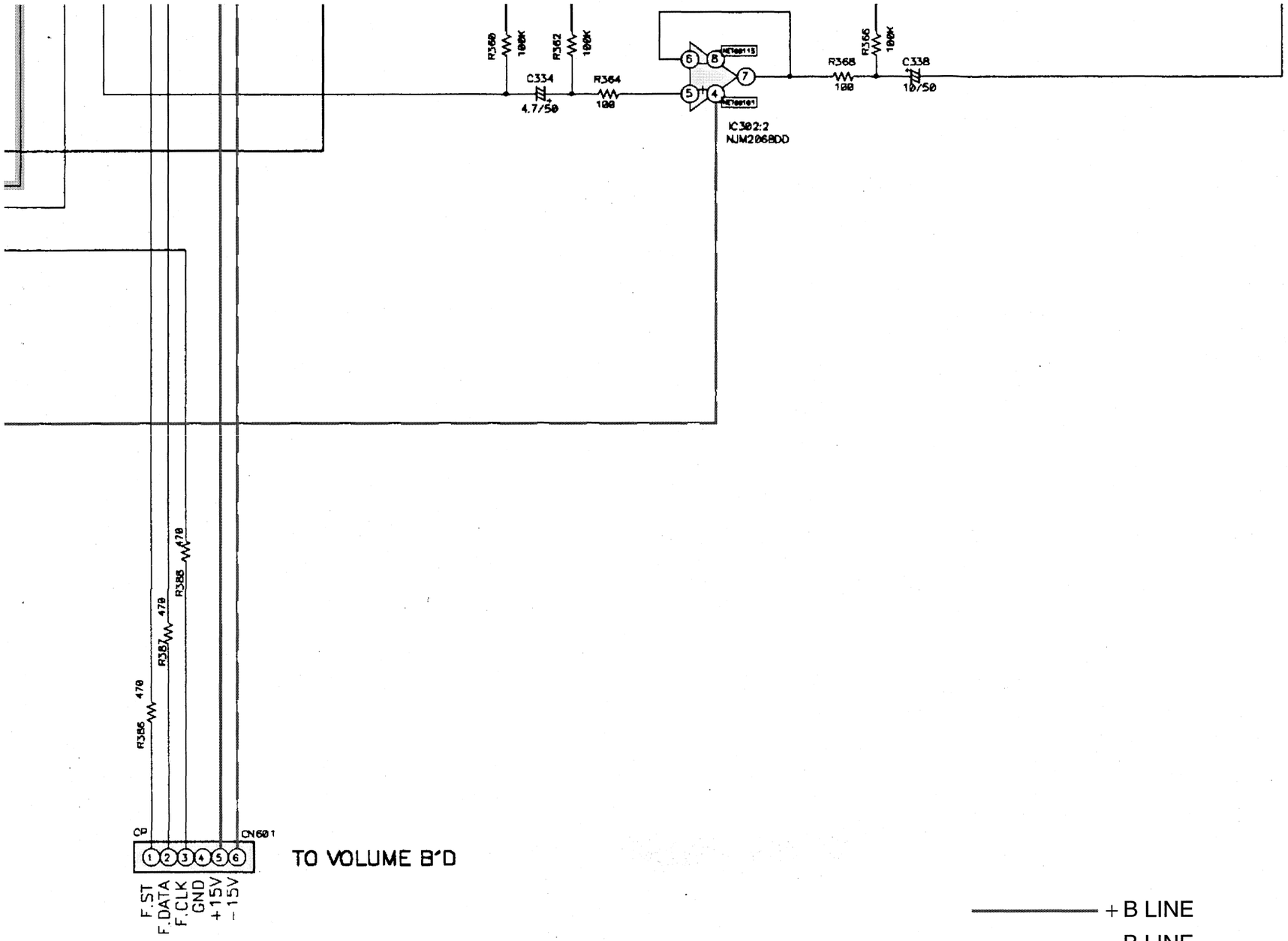

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ne to chassis resistance check. If the leakage
r if the resistance from chassis to either side
0kohms, the unit is defective.

istomer until the problem is located and

+ B LINE

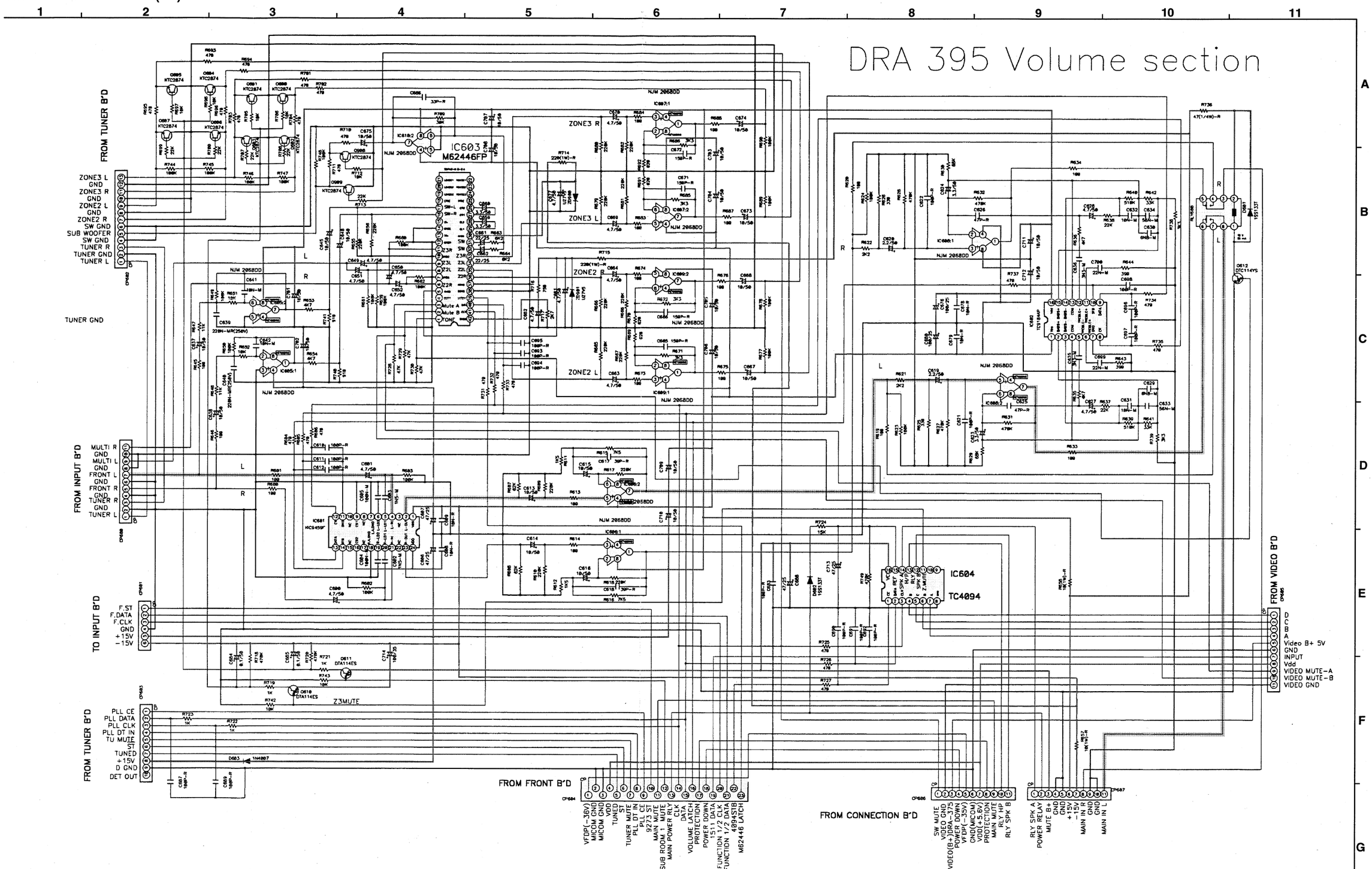
– B LINE

SIGNAL LINE

SCHEMATIC DIAGRAMS(1/6)
INPUT UNIT

E F G H

SCHEMATIC DIAGRAMS(2/6)



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WARNING:

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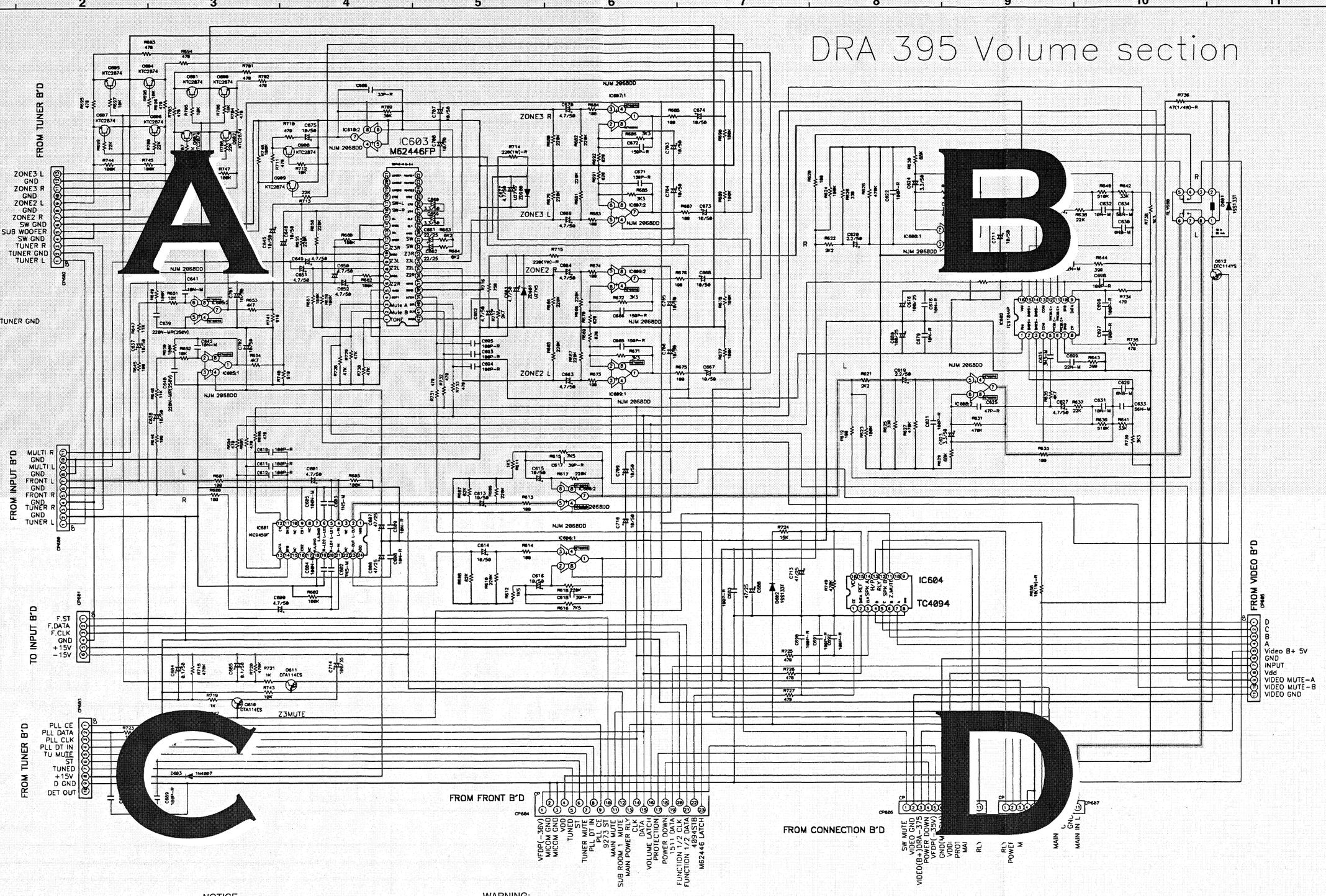
———— + B LINE
– – – – – B LINE
▒▒▒▒▒▒ SIGNAL LINE

SCHEMATIC DIAGRAMS(2/6)
VOLUME UNIT

SCHEMATIC DIAGRAMS(2/6)

DRA 395 Volume section



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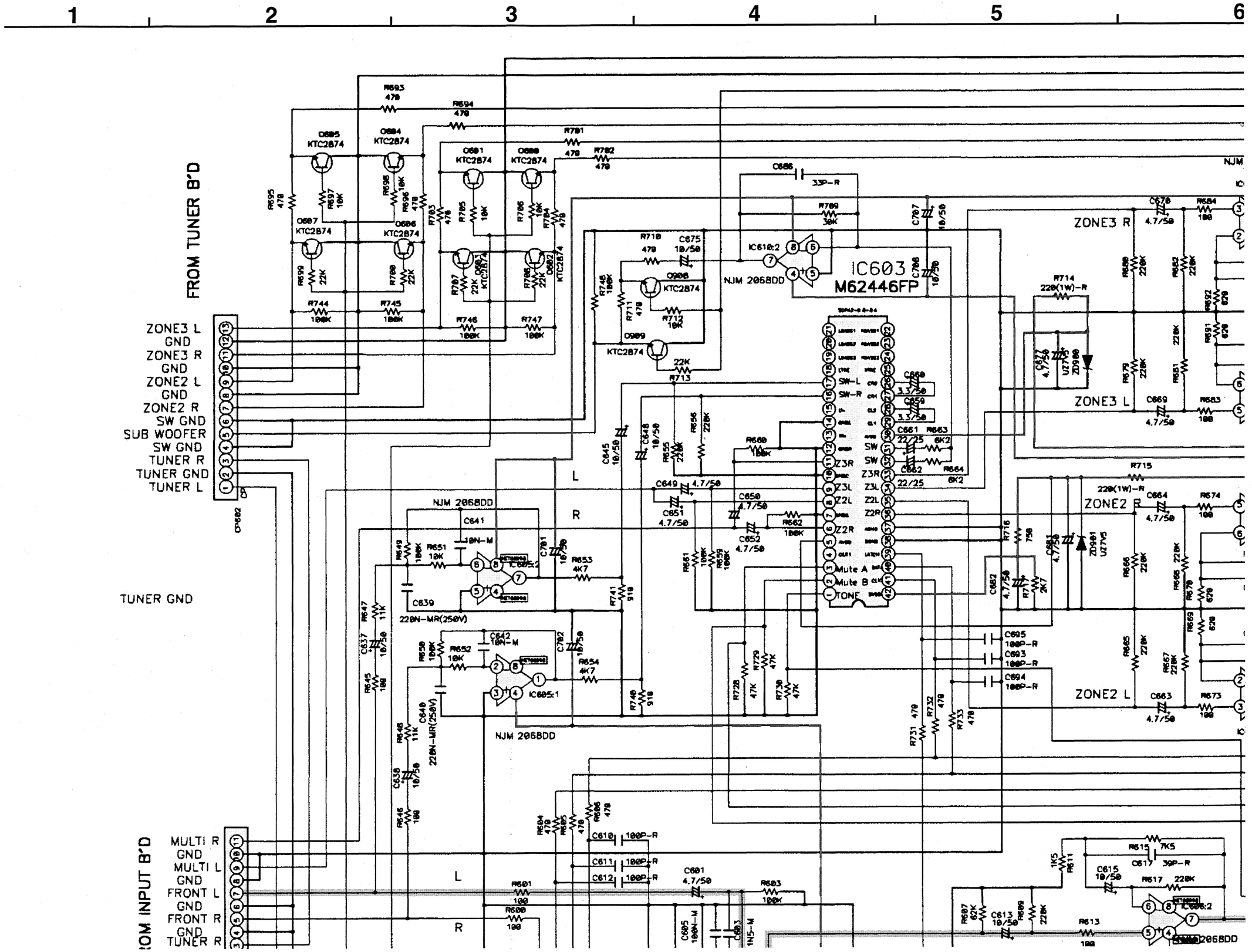
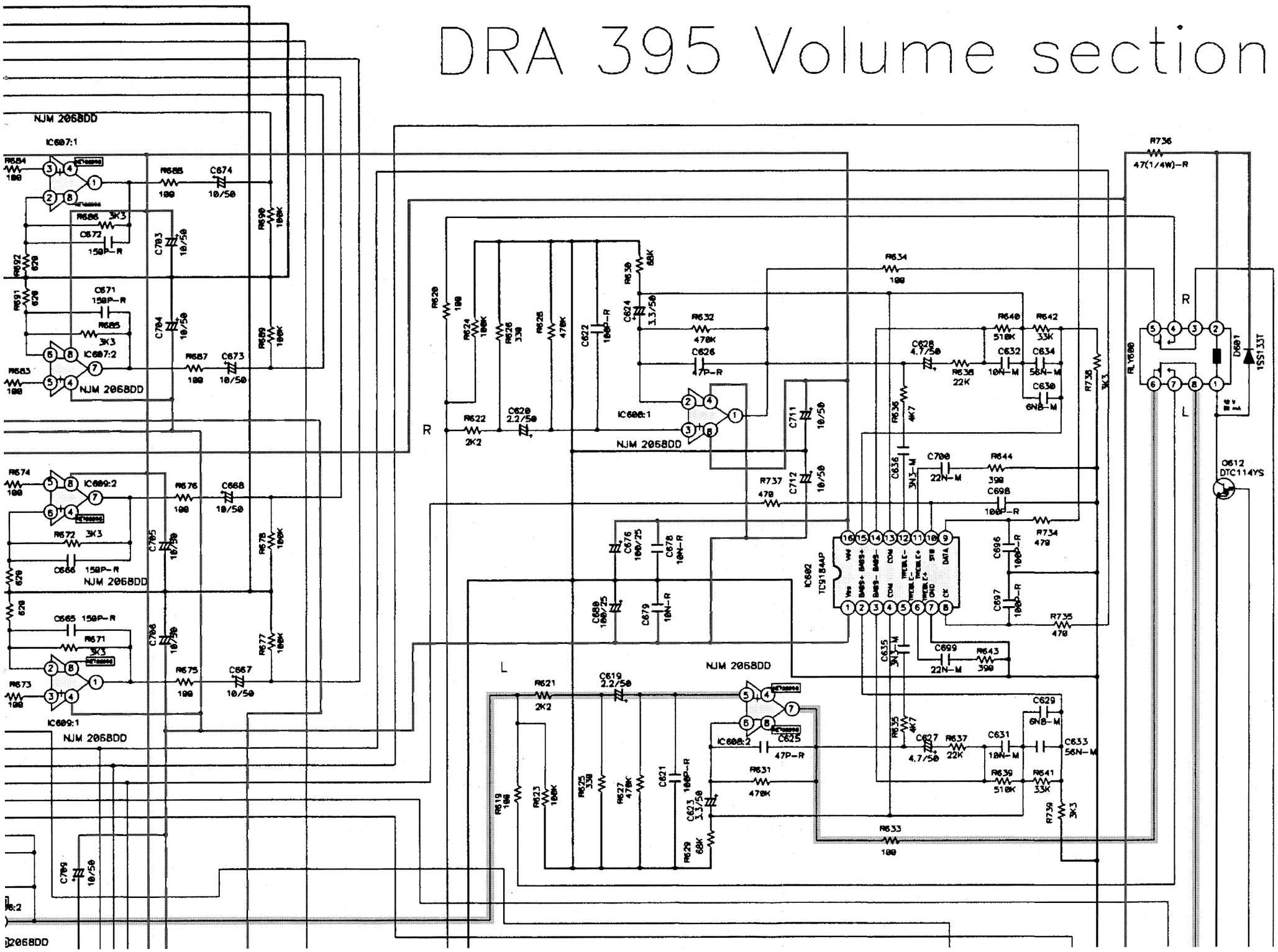
+ B LINE
- B LINE
SIGNAL LINE

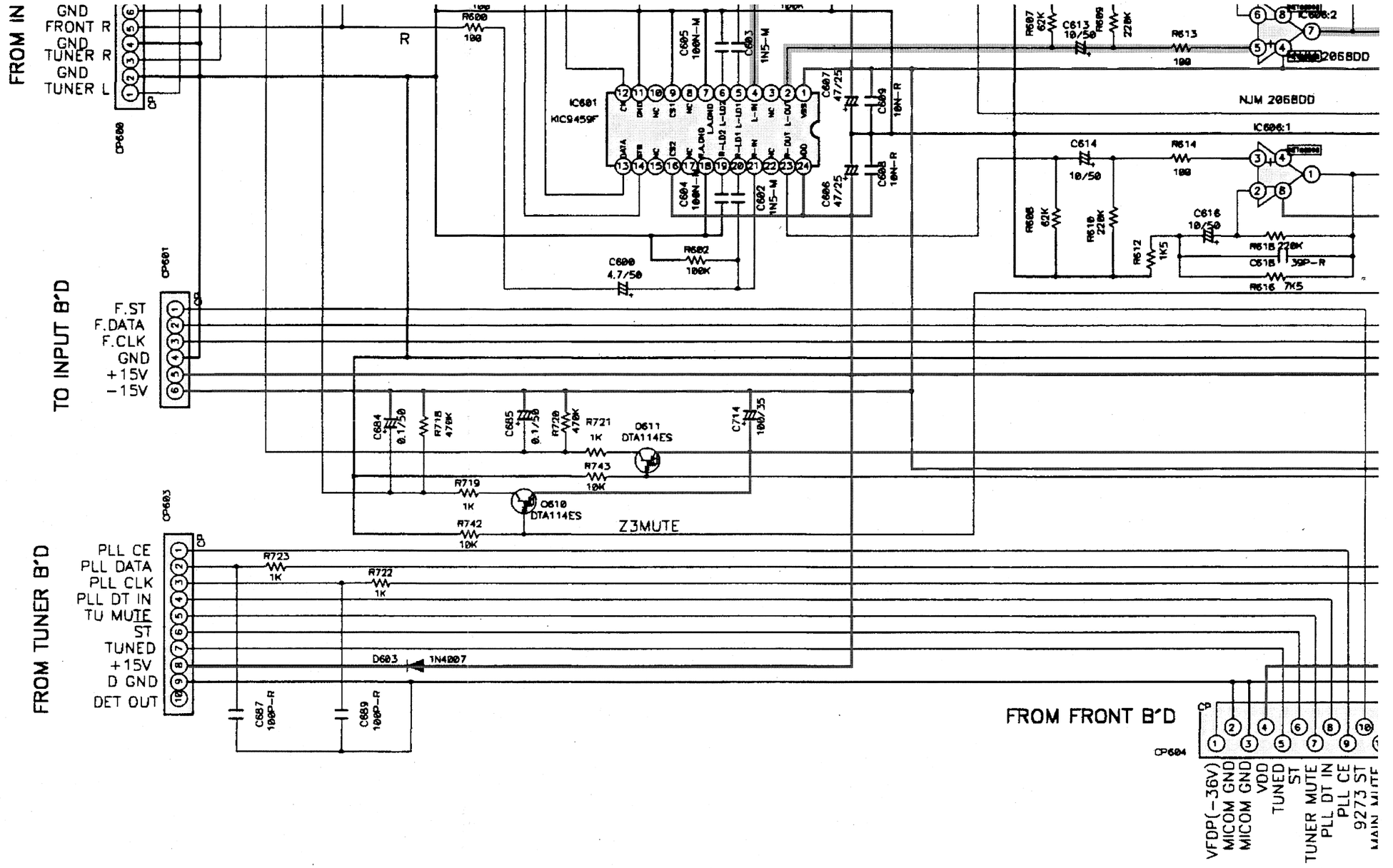
SCHEMATIC DIAGRAMS(2/6)
VOLUME UNIT

SCHEMATIC DIAGRAMS(2/6)



DRA 395 Volume section





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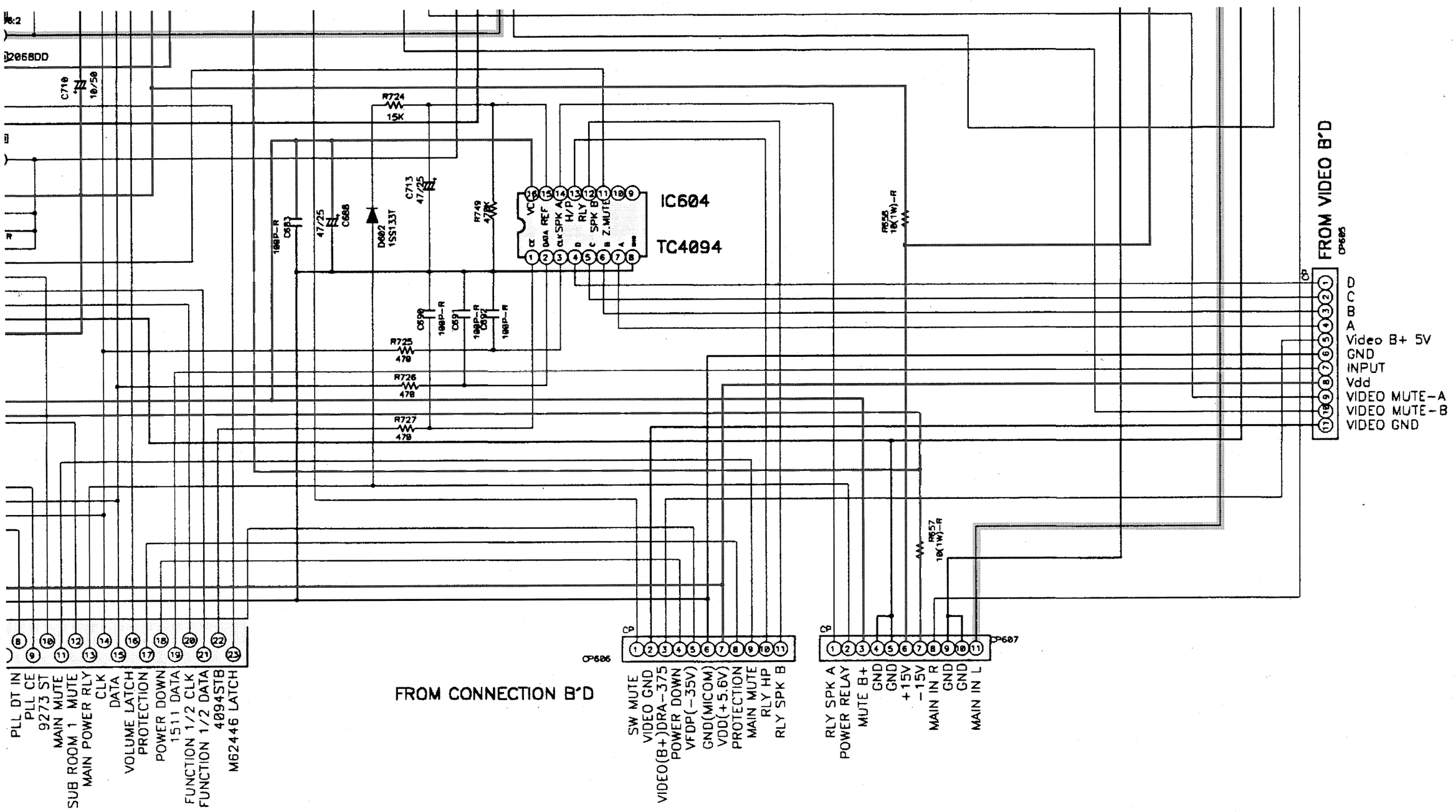

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or if the resistance from chassis to either side
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+ B LINE

– B LINE

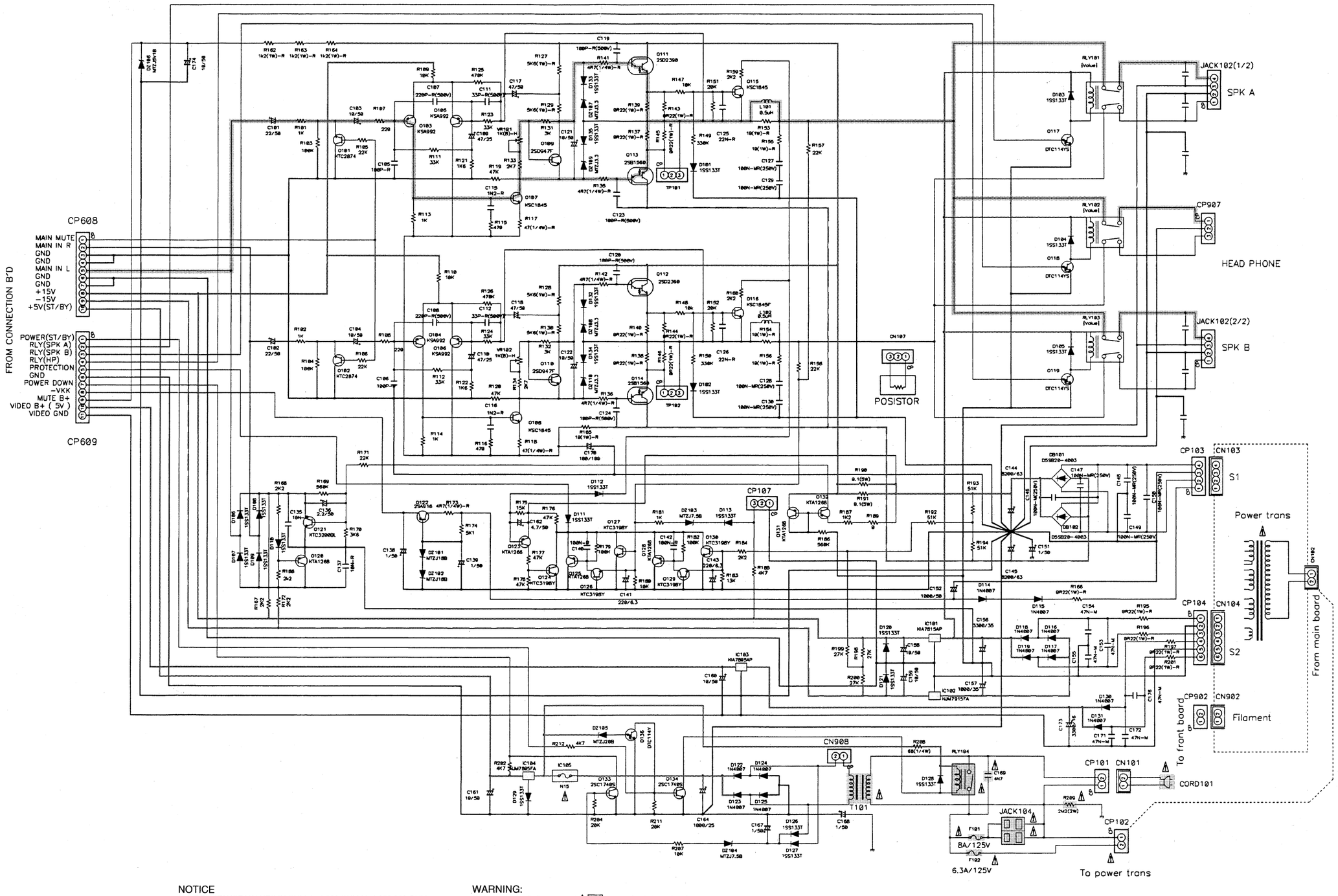
SIGNAL LINE

SCHEMATIC DIAGRAMS(2/6)

VOLUME UNIT

SCHEMATIC DIAGRAMS(3/6)

DRA 395 Main section



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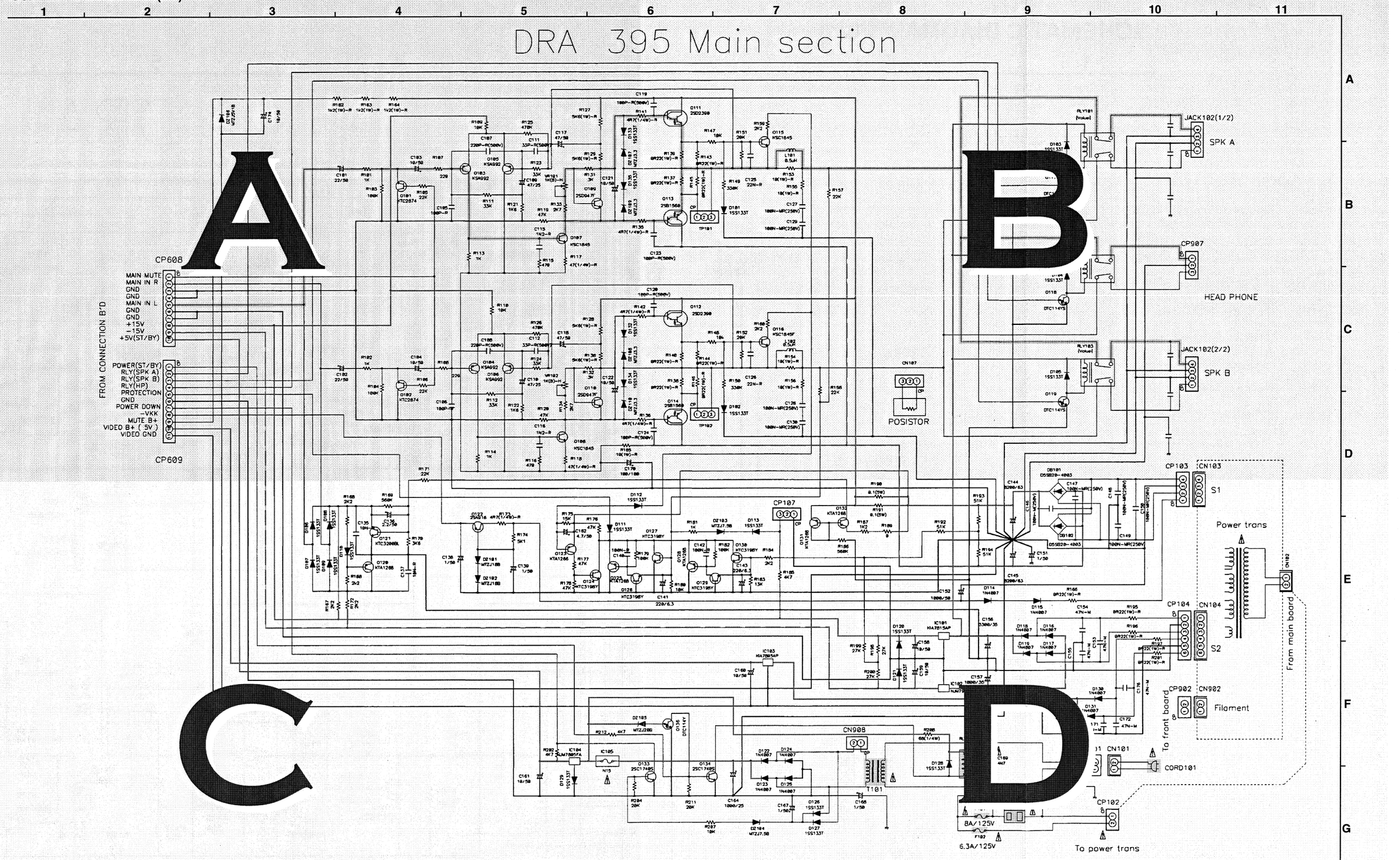
——— + B LINE
– – – – – B LINE
▒▒▒▒▒ SIGNAL LINE

SCHEMATIC DIAGRAMS(3/6)
MAIN UNIT

SCHEMATIC DIAGRAMS(3/6)



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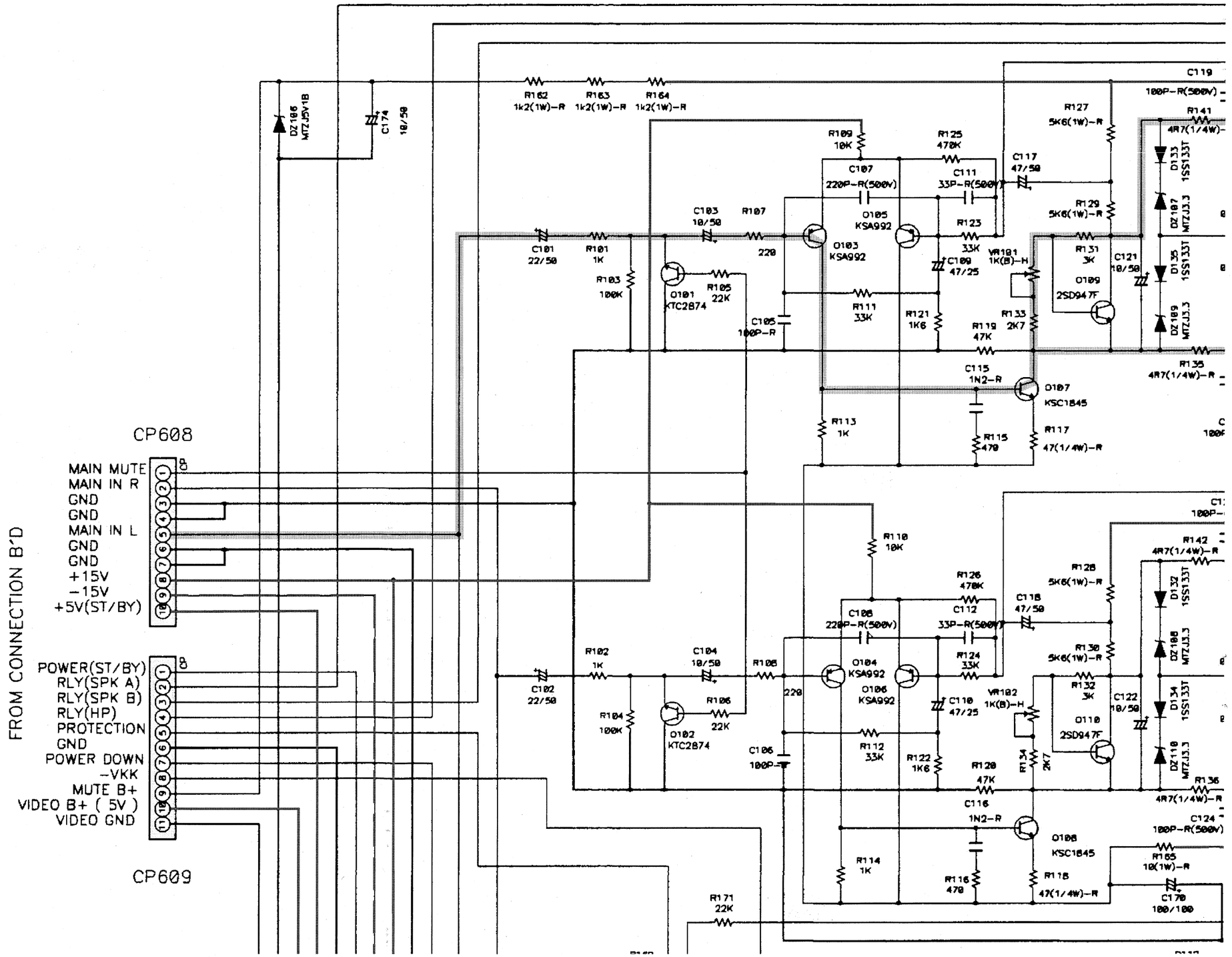
+B LINE
−B LINE
SIGNAL LINE

SCHEMATIC DIAGRAMS(3/6)
MAIN UNIT

SCHEMATIC DIAGRAMS(3/6)

1 2 3 4 5 6

DRA 39



6 7 8 9 10 11

A B C D

95 Main section

C119 -R(500V)
R141 4R7(1/4W)-R
Q111 2SD2390
D133 1SS133T
DZ107 MTZJ3.3
R147 10K
R151 20K
R159 2K2
Q115 KSC1845
R139 0R22(1W)-R
R143 0R22(1W)-R
L101 0.5uH
R153 1Ω(1W)-R
D135 1SS133T
R137 0R22(1W)-R
R145 0R22(1W)-R
R149 330K
C125 22N-R
R155 1Ω(1W)-R
R157 22K
Q113 2SB1560
CP
TP101
D101 1SS133T
C127 100N-MR(250V)
C129 100N-MR(250V)
DZ109 MTZJ3.3
R135 (1/4W)-R
C123 100P-R(500V)

C120 100P-R(500V)
R142 (1/4W)-R
Q112 2SD2390
D132 1SS133T
R148 10k
R152 20K
R160 2K2
Q116 KSC1845F
L102 0.5uH
DZ108 MTZJ3.3
R140 0R22(1W)-R
R144 0R22(1W)-R
R154 1Ω(1W)-R
D134 1SS133T
R138 0R22(1W)-R
R146 0R22(1W)-R
R150 330K
C126 22N-R
R156 1Ω(1W)-R
R158 22K
DZ110 MTZJ3.3
Q114 2SB1560
CP
TP102
D102 1SS133T
C128 100N-MR(250V)
C130 100N-MR(250V)
R136 7(1/4W)-R
C124 P-R(500V)

CN107
POSISTOR

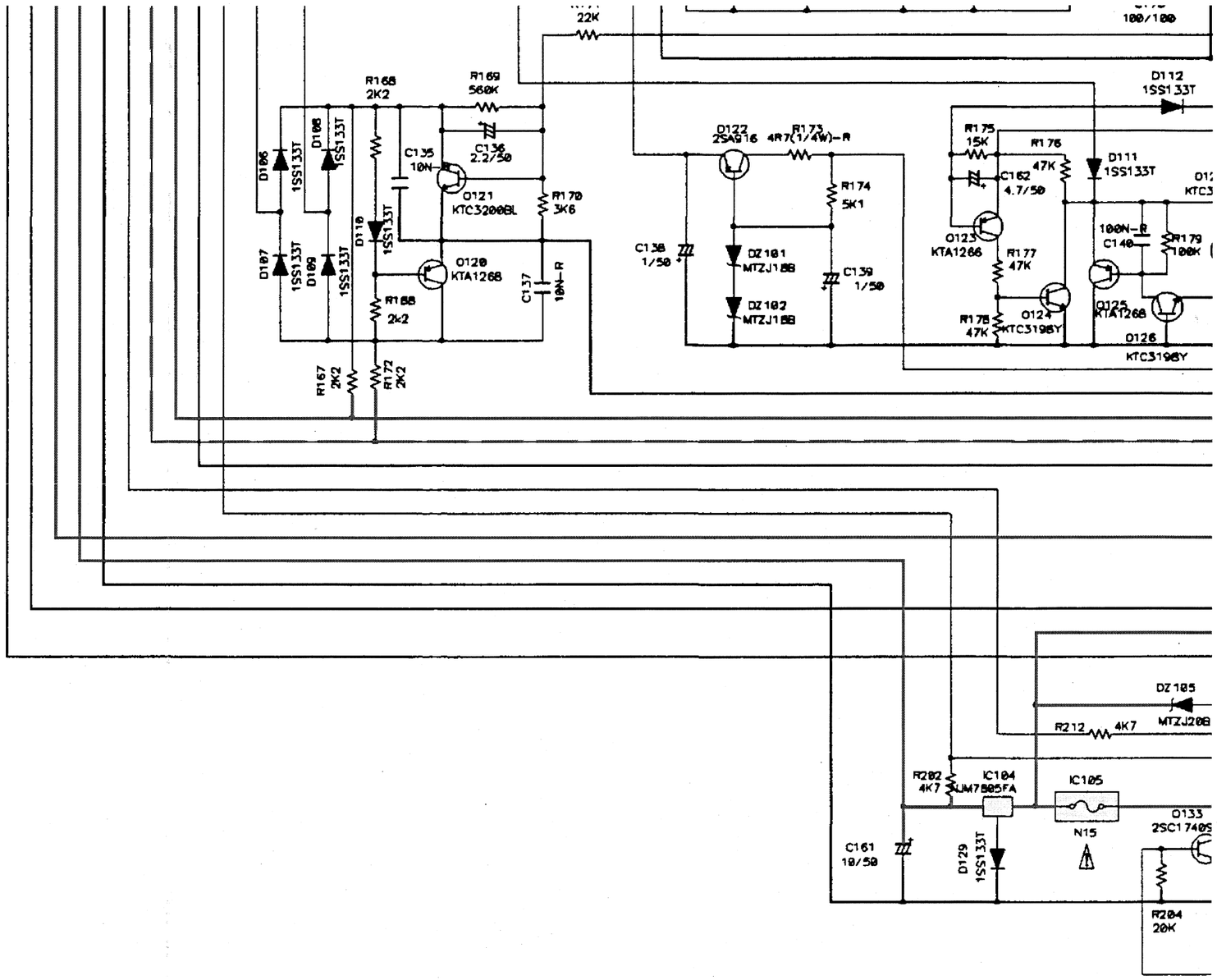
RLY101 (Value)
D103 1SS133T
Q117 DTC114YS
JACK102(1/2)
SPK A

RLY102 (Value)
D104 1SS133T
Q118 DTC114YS
CP907
HEAD PHONE

RLY103 (Value)
D105 1SS133T
Q119 DTC114YS
JACK102(2/2)
SPK B

DB101 D5SB20-4003
C144 B200/63
C147 100N-MR(250V)
CP103
CN103
S1

R190



NOTICE

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ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
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WARNING:

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Use ONLY replacement parts recommend

CAUTION:

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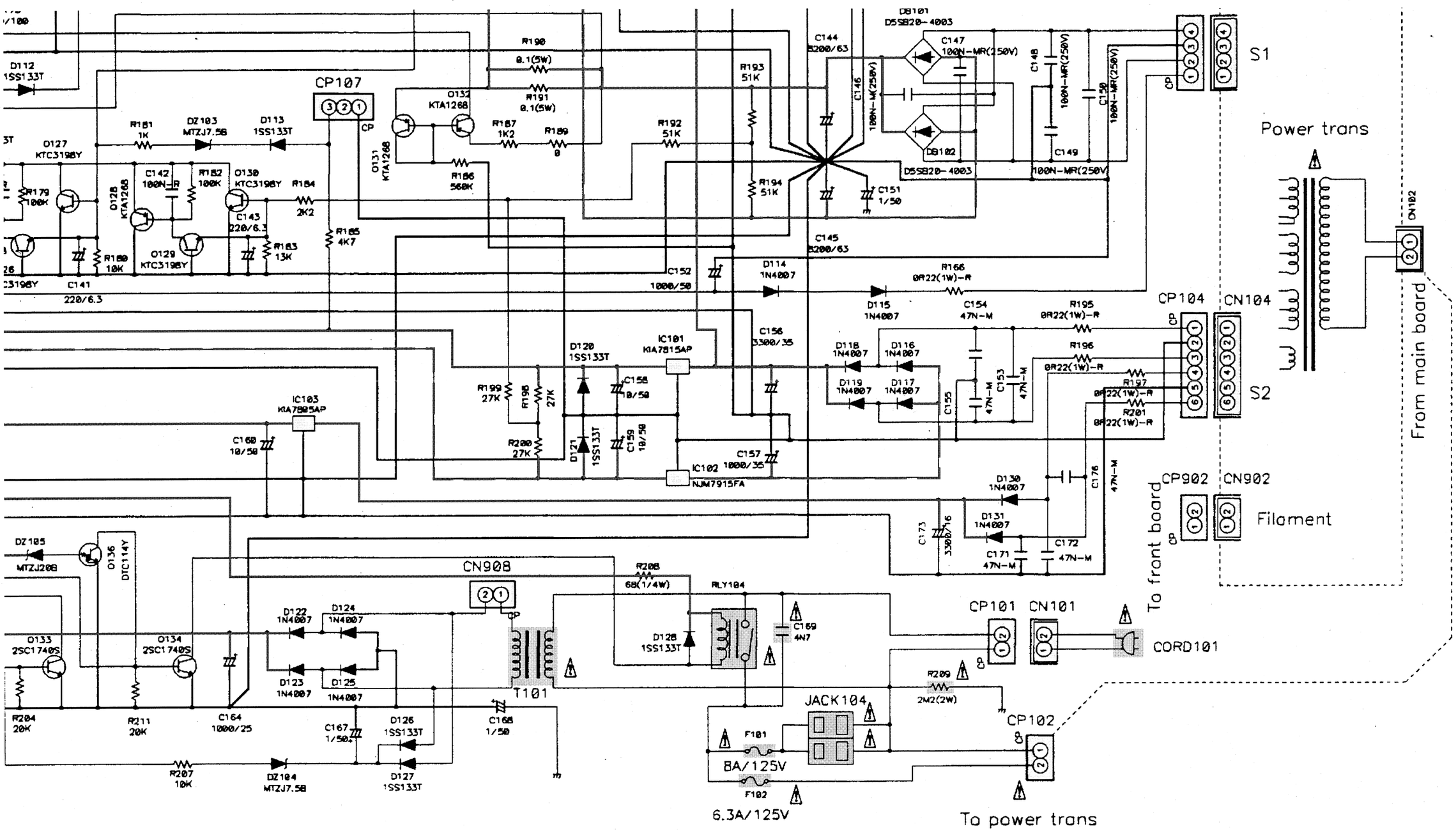
leakage current check or (2) a line to cha
current exceeds 0.5 milliamps, or if the re
of the power card is less than 460kohms,

WARNING:

DO NOT return the unit to the customer u
corrected.



have critical characteristics.
ommended by the manufacture.

ıstomer, make sure you make either (1) a
e to chassis resistance check. If the leakage
· if the resistance from chassis to either side
)kohms, the unit is defective.

stomer until the problem is located and

+ B LINE
– B LINE
SIGNAL LINE

SCHEMATIC DIAGRAMS(3/6)
MAIN UNIT

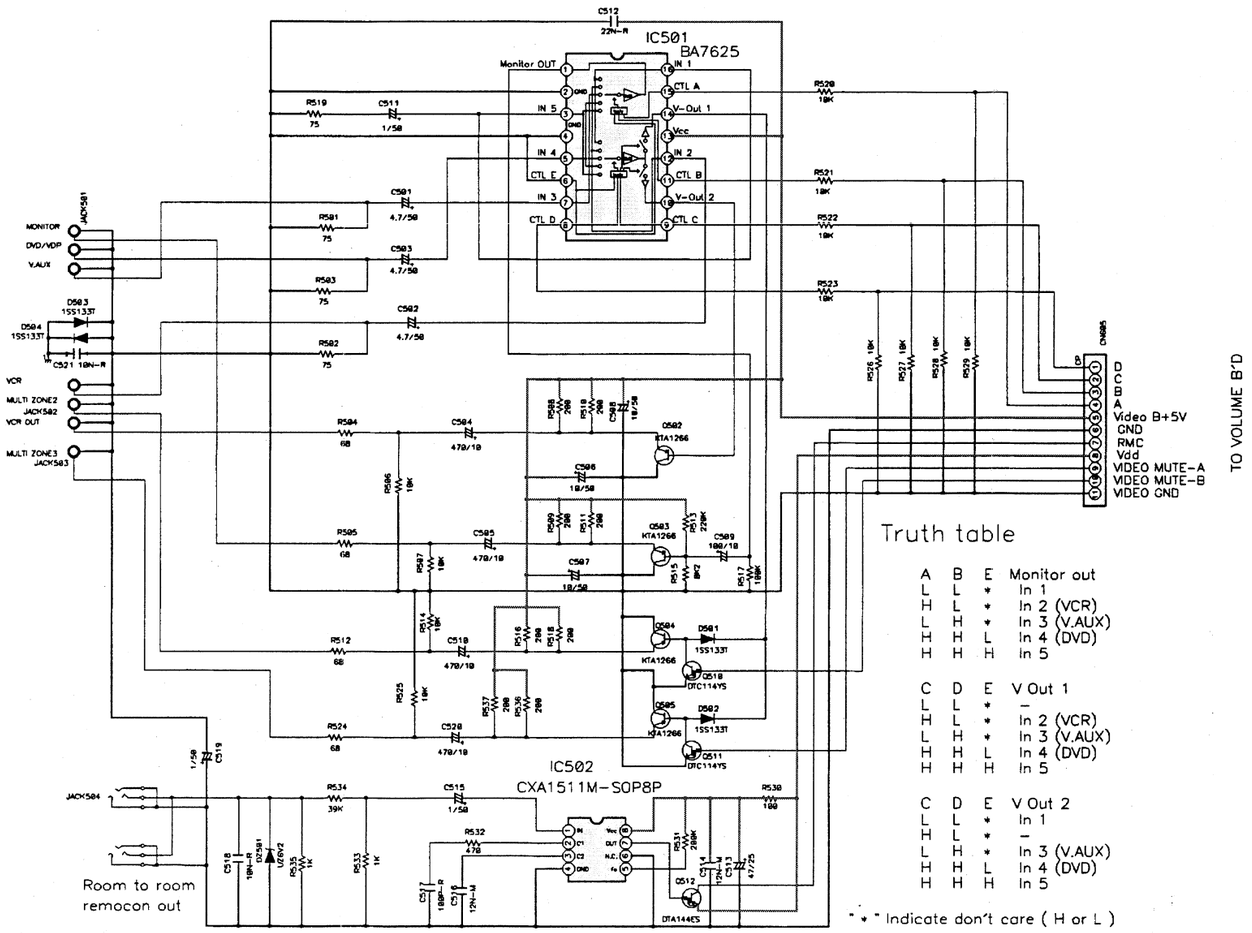
E F G H

SCHEMATIC DIAGRAMS(4/6)

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G H

DRA 395 Video Section



Truth table

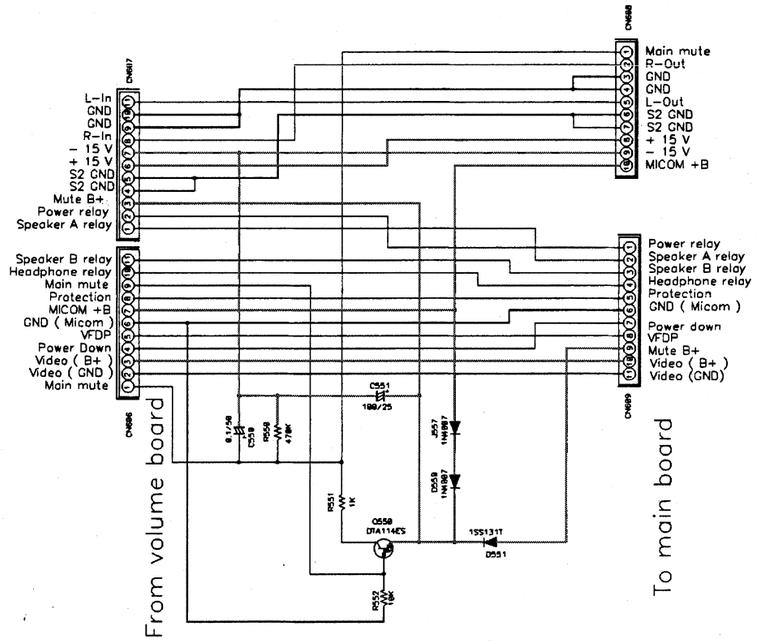
A	B	E	Monitor out
L	L	*	In 1
H	L	*	In 2 (VCR)
L	H	*	In 3 (V.AUX)
H	H	L	In 4 (DVD)
H	H	H	In 5

C	D	E	V Out 1
L	L	*	–
H	L	*	In 2 (VCR)
L	H	*	In 3 (V.AUX)
H	H	L	In 4 (DVD)
H	H	H	In 5

C	D	E	V Out 2
L	L	*	In 1
H	L	*	–
L	H	*	In 3 (V.AUX)
H	H	L	In 4 (DVD)
H	H	H	In 5

" * " Indicate don't care (H or L)

DRA 395 Connection Section



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WARNING:

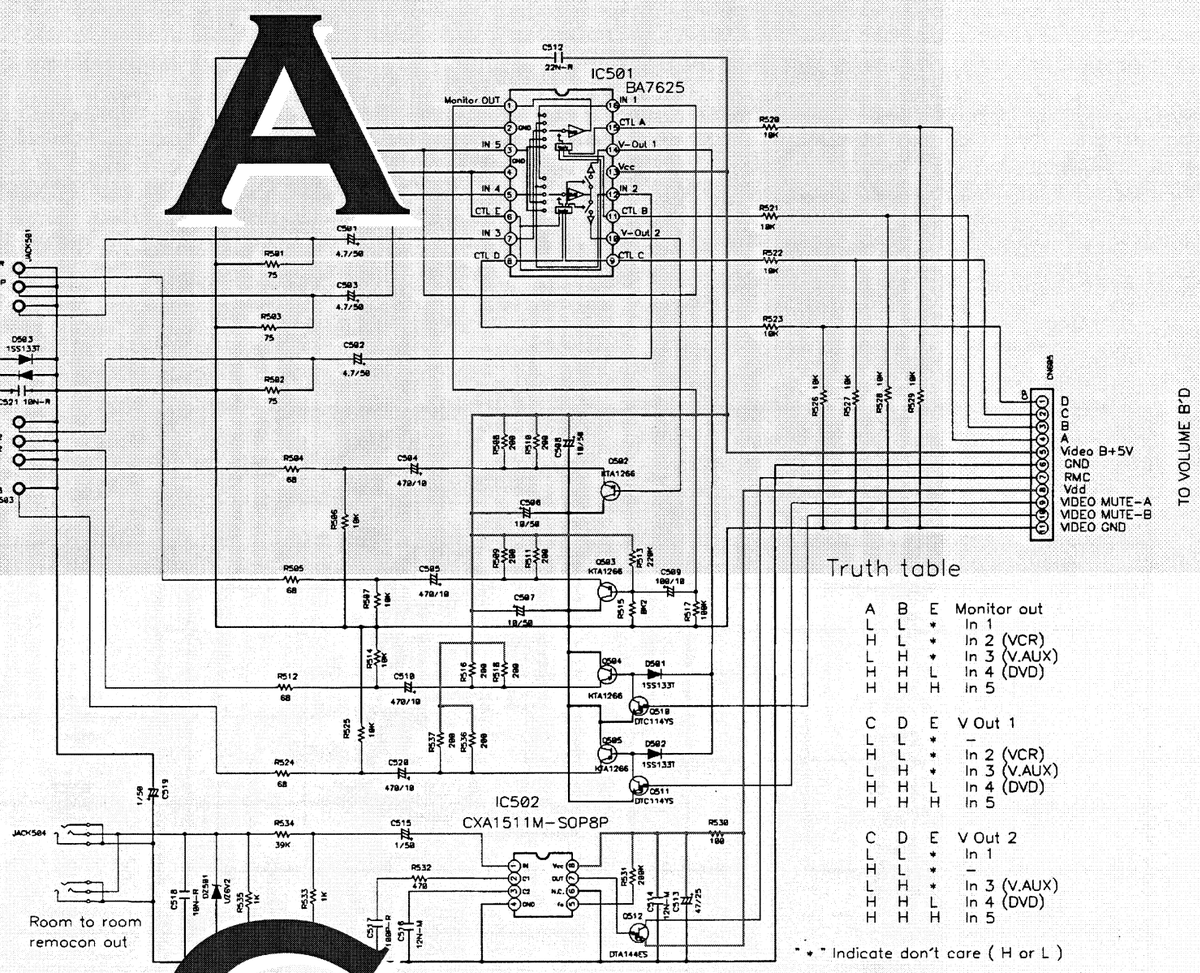
DO NOT return the unit to the customer until the problem is located and corrected.

——— + B LINE
– – – – – B LINE

SCHEMATIC DIAGRAMS(4/6)
VIDEO UNIT
CONNECTOR UNIT

SCHEMATIC DIAGRAMS(4/6)

DRA 395 Video Section



Truth table

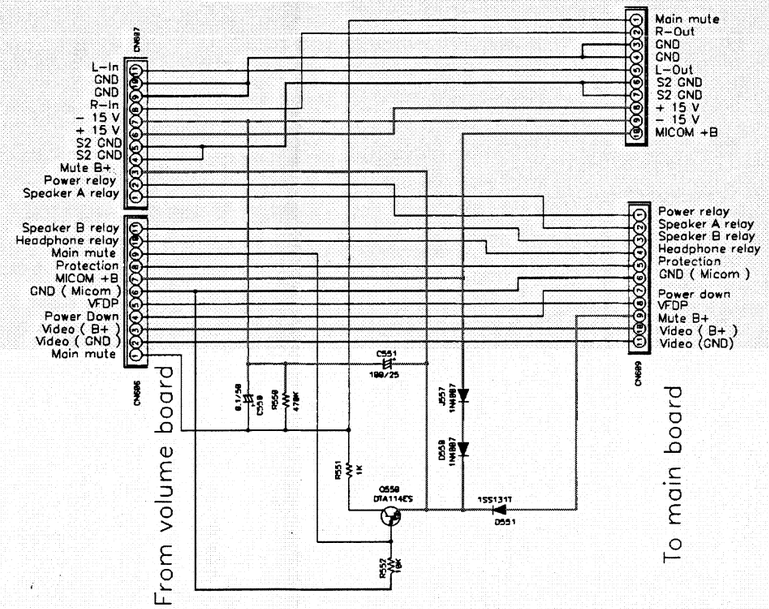
A	B	E	Monitor out
L	L	*	In 1
H	L	*	In 2 (VCR)
L	H	*	In 3 (V.AUX)
H	H	L	In 4 (DVD)
H	H	H	In 5

C	D	E	V Out 1
L	L	*	–
H	L	*	In 2 (VCR)
L	H	*	In 3 (V.AUX)
H	H	L	In 4 (DVD)
H	H	H	In 5

C	D	E	V Out 2
L	L	*	In 1
H	L	*	–
L	H	*	In 3 (V.AUX)
H	H	L	In 4 (DVD)
H	H	H	In 5

" * " Indicate don't care (H or L)

DRA 395 Connection Section



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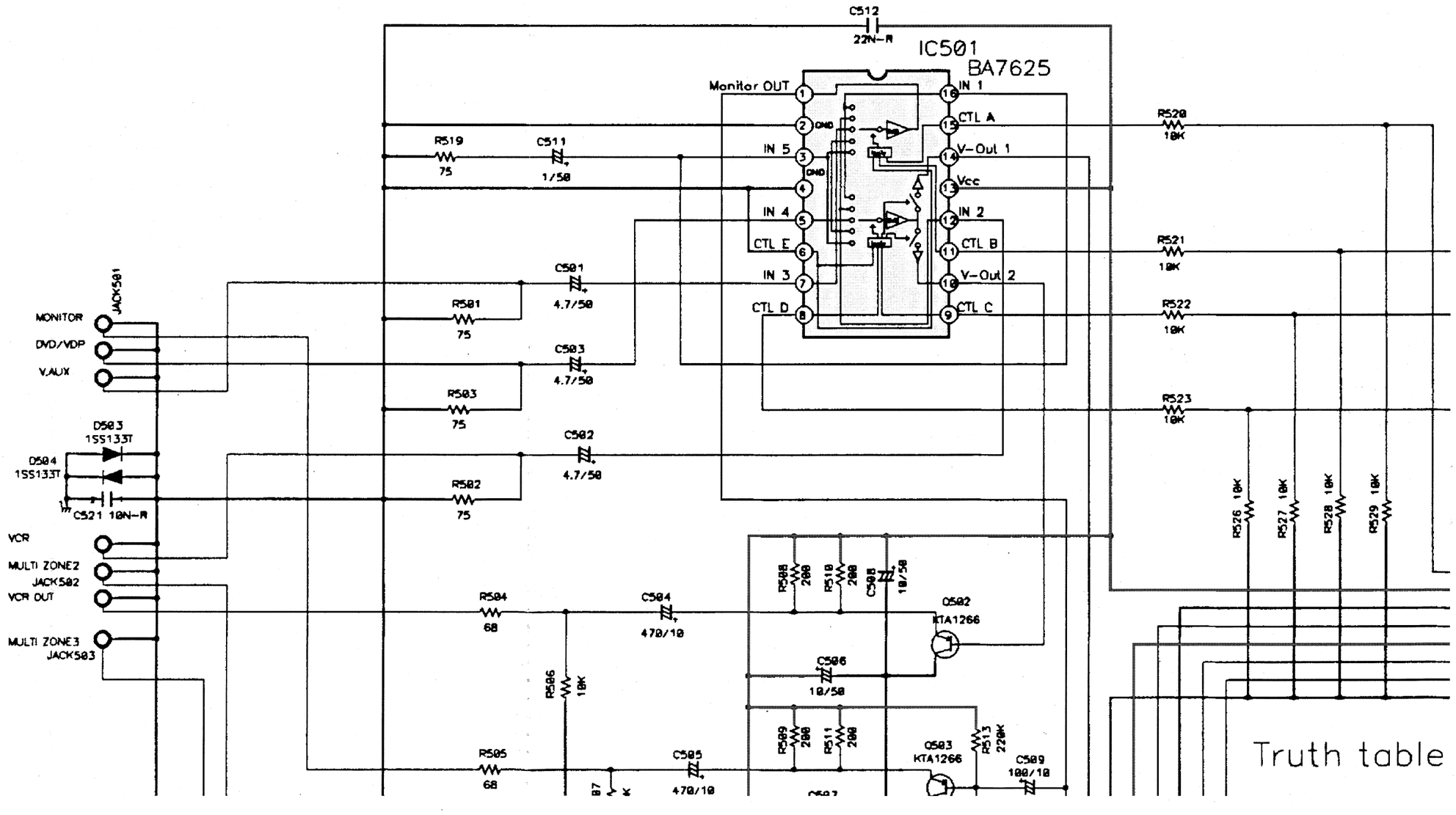
——— + B LINE
– – – – – B LINE

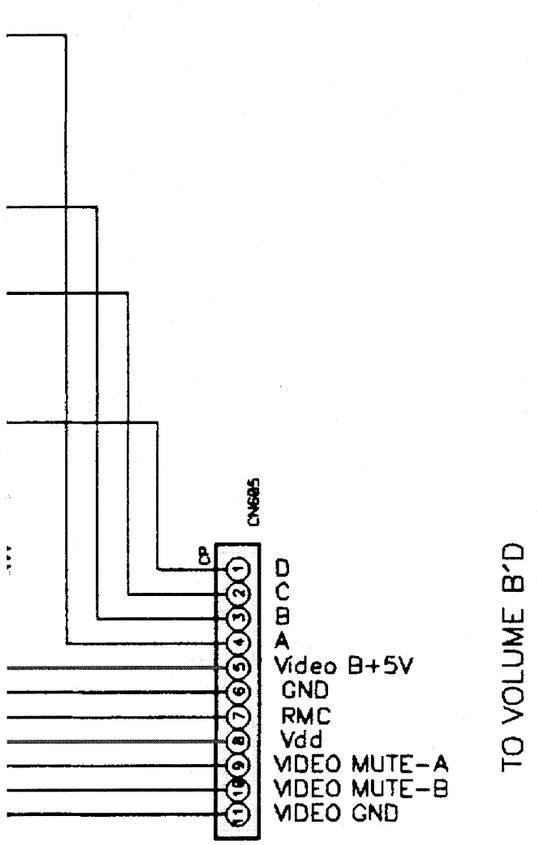
SCHEMATIC DIAGRAMS(4/6)
VIDEO UNIT
CONNECTOR UNIT

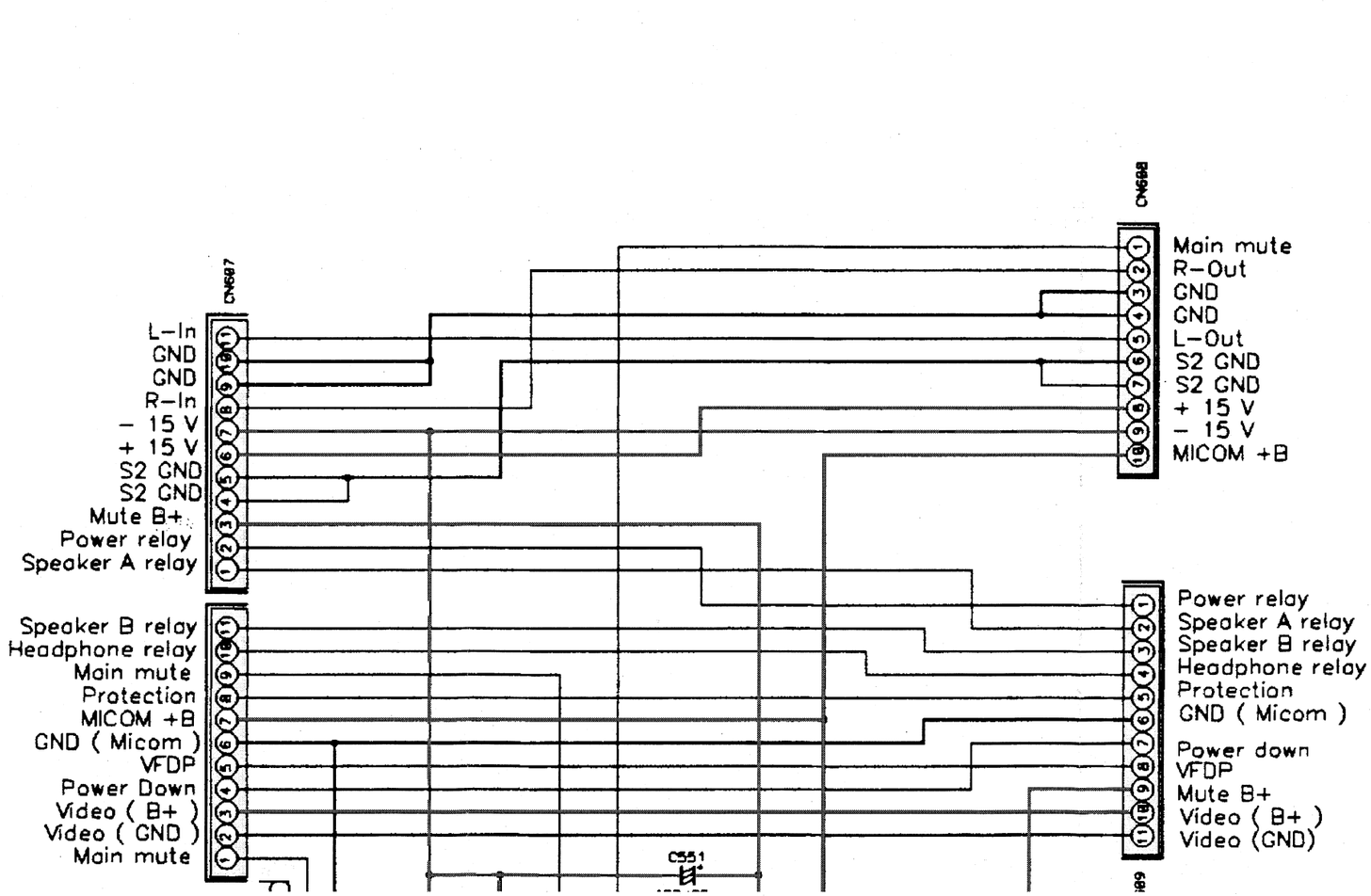
1 2 3 4 5 6

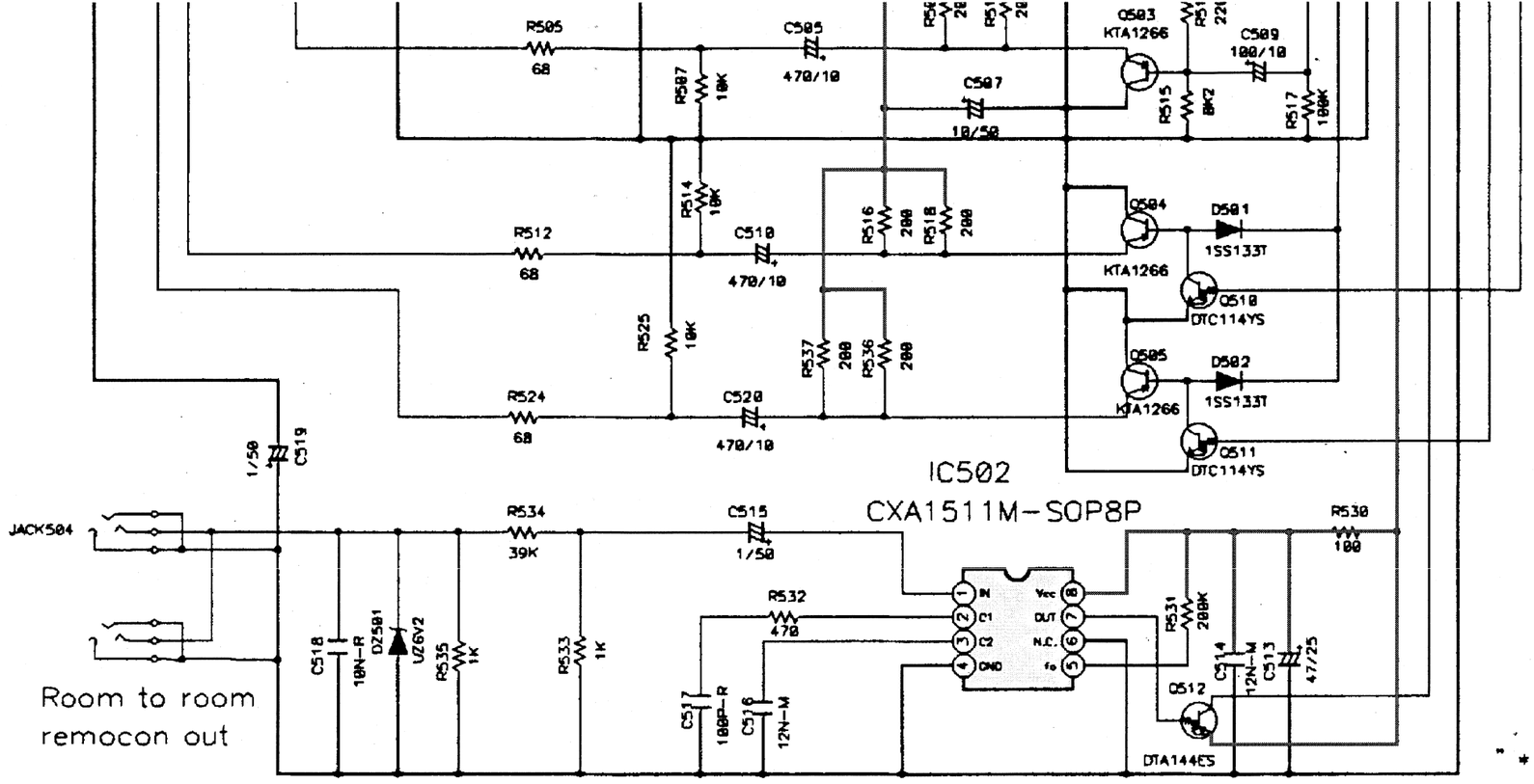
DRA 395 Video Section



DRA 395
Connection Section







Truth table

A	B	E	M
L	L	*	
L	L	*	
L	H	*	
L	H	*	
H	H	L	
H	H	H	

C	D	E	V
L	L	*	
L	L	*	
L	H	*	
L	H	*	
H	H	L	
H	H	H	

C	D	E	V
L	L	*	
L	L	*	
L	H	*	
L	H	*	
H	H	L	
H	H	H	

" * " Indicate don't ca

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leakage current check or (2) a line to ch
current exceeds 0.5 milliamps, or if the
of the power card is less than 460kohms

WARNING:

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corrected.

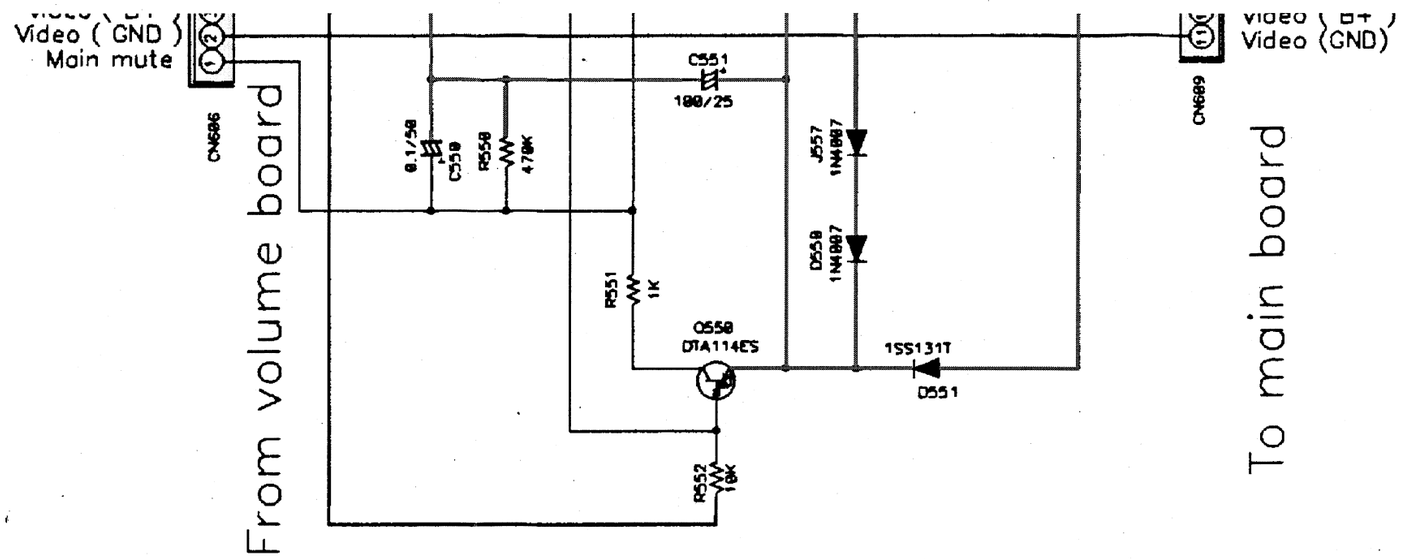
ible

E Monitor out
* In 1
* In 2 (VCR)
* In 3 (V.AUX)
L In 4 (DVD)
H In 5

E V Out 1
* –
* In 2 (VCR)
* In 3 (V.AUX)
L In 4 (DVD)
H In 5

E V Out 2
* In 1
* –
* In 3 (V.AUX)
L In 4 (DVD)
H In 5

n't care (H or L)



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commended by the manufacture.

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ne to chassis resistance check. If the leakage
or if the resistance from chassis to either side
60kohms, the unit is defective.

ustomer until the problem is located and

+ B LINE

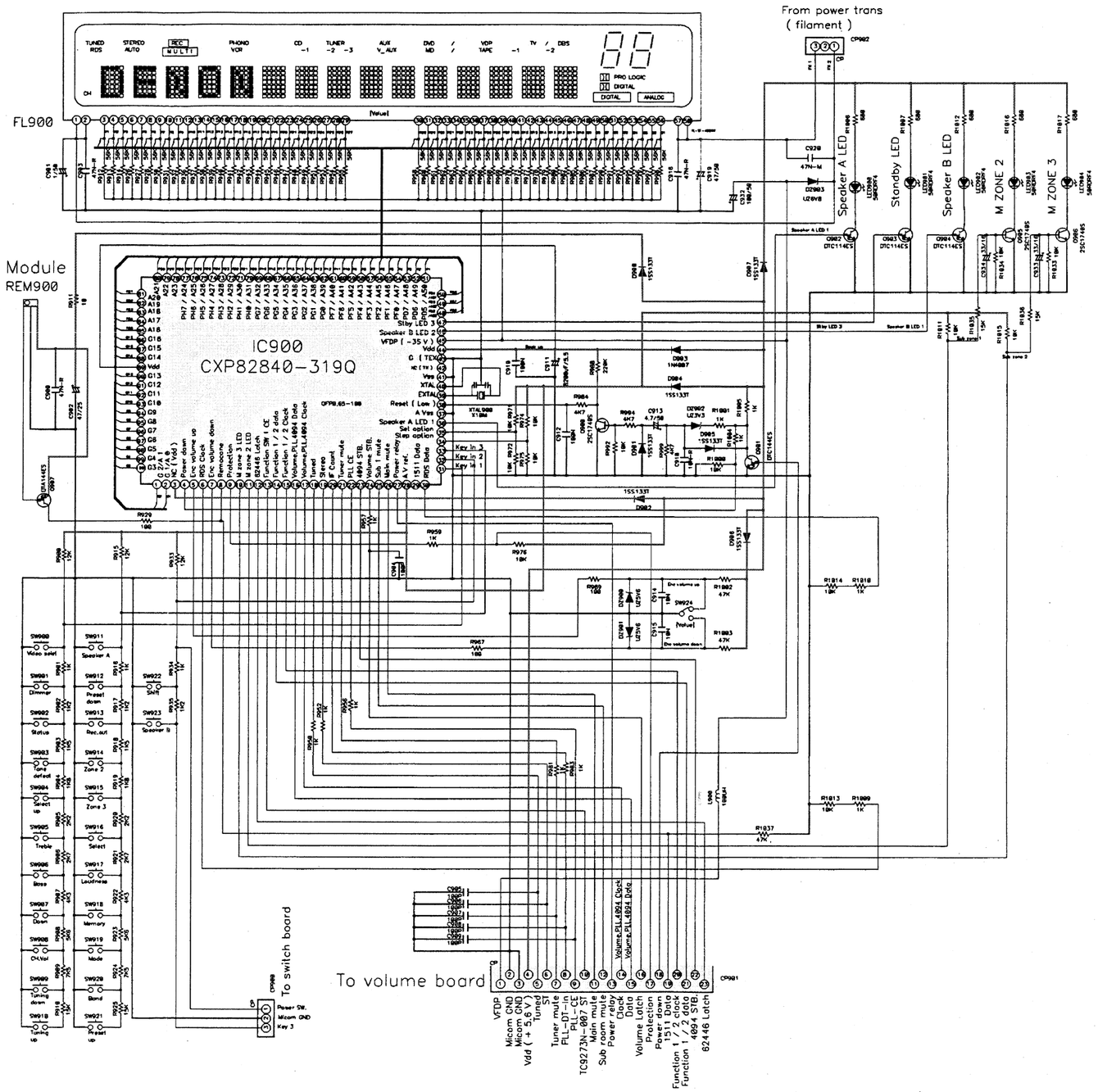
– B LINE

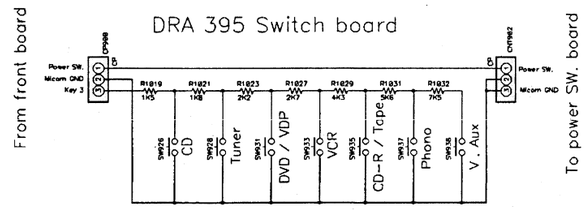
SCHEMATIC DIAGRAMS(4/6)
VIDEO UNIT
CONNECTOR UNIT

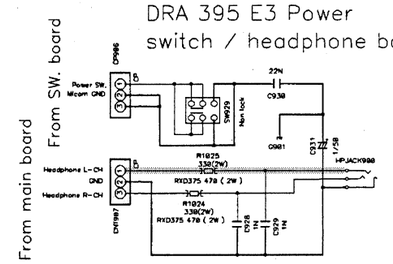
E F G H

SCHEMATIC DIAGRAMS(5/6)

DRA 395 Front section







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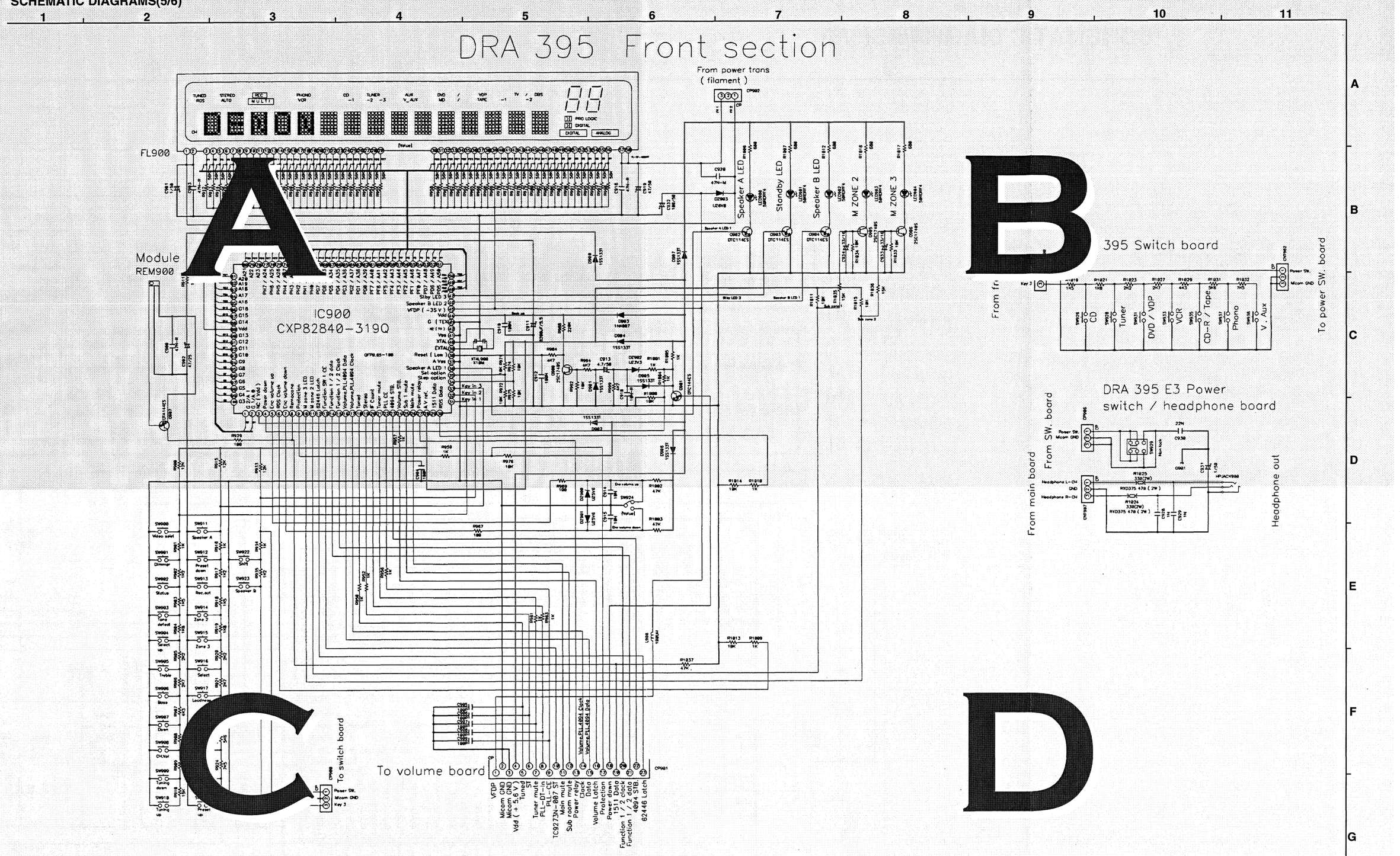
WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

——— + B LINE
▒▒▒▒▒ SIGNAL LINE

SCHEMATIC DIAGRAMS(5/6)
FRONT UNIT
SWITCH UNIT
POWER SW/HP UNIT

SCHEMATIC DIAGRAMS(5/6)



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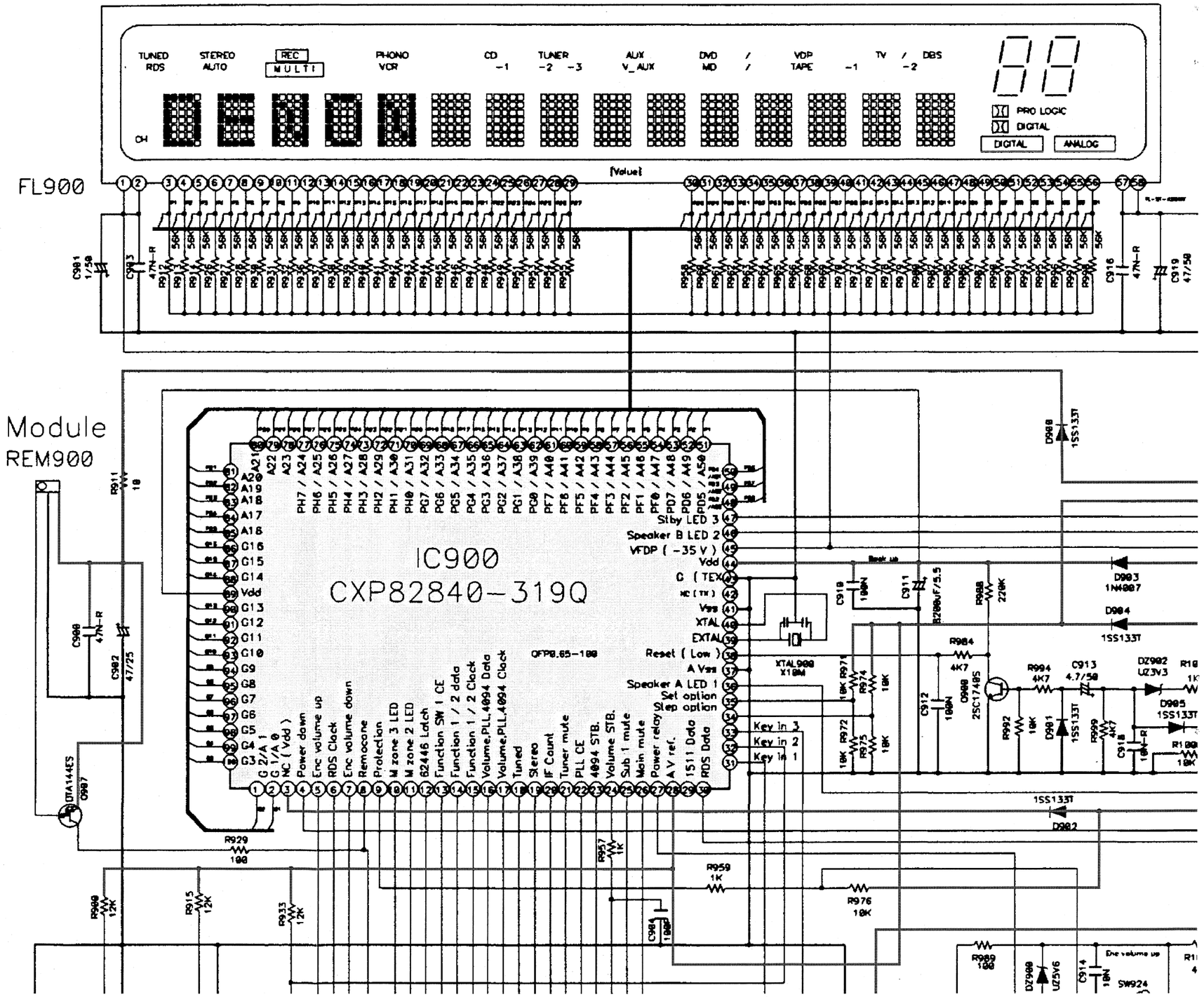
+B LINE
SIGNAL LINE

SCHEMATIC DIAGRAMS(5/6)
FRONT UNIT
SWITCH UNIT
POWER SW/HP UNIT

SCHEMATIC DIAGRAMS(5/6)

1 2 3 4 5 6

DRA 395 Fr



6 7 8 9 10 11

A B C D

Front section

From power trans
(filament)

CP902

Speaker A LED
Standby LED
Speaker B LED
M ZONE 2
M ZONE 3

R1006 R1007 R1012 R1016 R1017 680

LED900 LED901 LED902 LED903 LED904 SHRDRF4

Q902 Q903 Q904 DTC114ES

Q905 2SC1740S

C928 47N-M

C919 47/50

C932 100/50

DZ903 UZ6V8

R1034 R1033 18K

C934 C933 33/16

R1035 R1036 15K

R1011 R1015 18K

Sub zone 1

Sub zone 2

Speaker A LED 1

Stby LED 3

Speaker B LED 1

DZ902 UZ3V3

R1001 1K

R1004 1K

R1005 1K

D905 1SS133T

Q901 DTC144ES

R1008 10K

D906 1SS133T

D907 1SS133T

R1002 47K

R1014 R1018 10K 1K

From front board

DRA 395 Switch board

CP908

Power SW.
Micom GND
Key 3

R1019 1K5
R1021 1K8
R1023 2K2
R1027 2K7
R1029 4K3
R1031 5K6
R1032 7K5

SW926 CD
SW928 Tuner
SW931 DVD / VDP
SW933 VCR
SW935 CD-R / Tape
SW937 Phono
SW938 V. Aux

CN902

Power SW.
Micom GND

To power SW. board

DRA 395 E3 Power switch / headphone board

From SW. board

CP906

Power SW.
Micom GND

SW929 Non lock

22N C930

Q901

C931 1/50

R1025 330(2W)

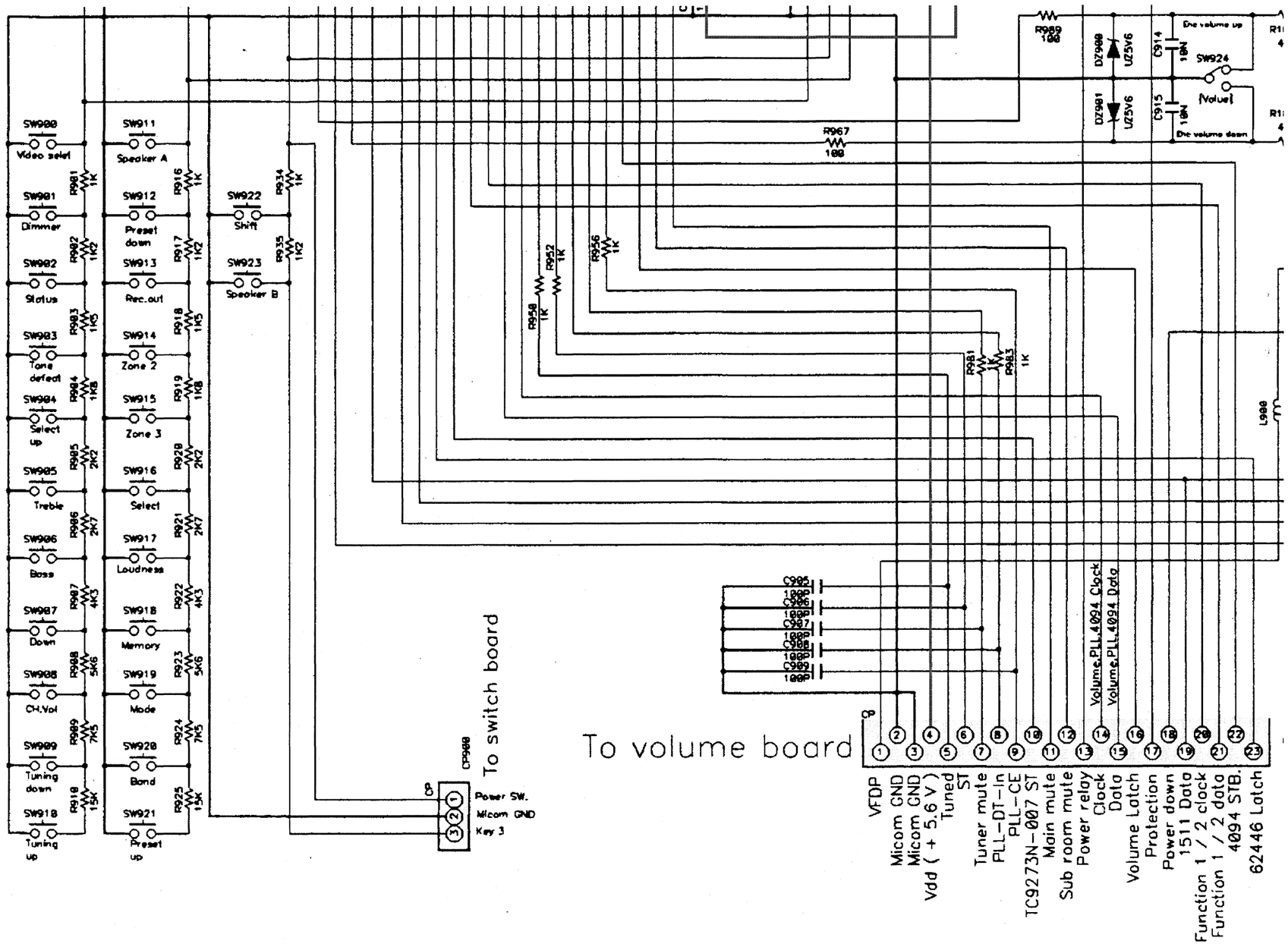
HPJACK900

Headphone L-CH
GND
Headphone R-CH

RXD375 470 (2W)

To main board

To headphone out



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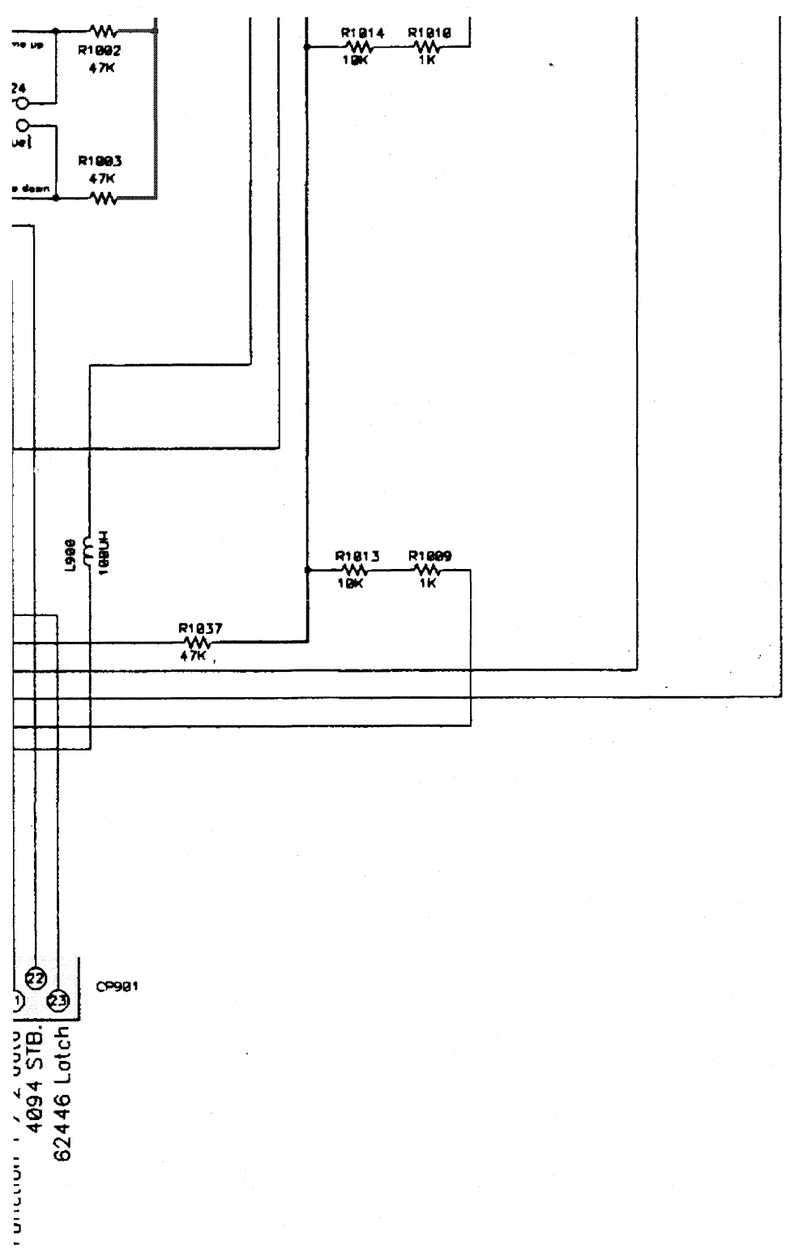

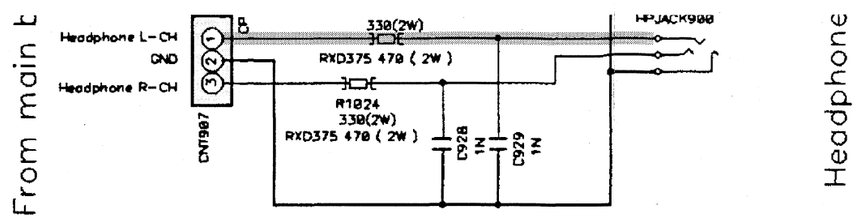

E

F

G

H

⚠ have critical characteristics.
recommended by the manufacture.

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ı line to chassis resistance check. If the leakage
, or if the resistance from chassis to either side
460kohms, the unit is defective.

customer until the problem is located and

——— + B LINE

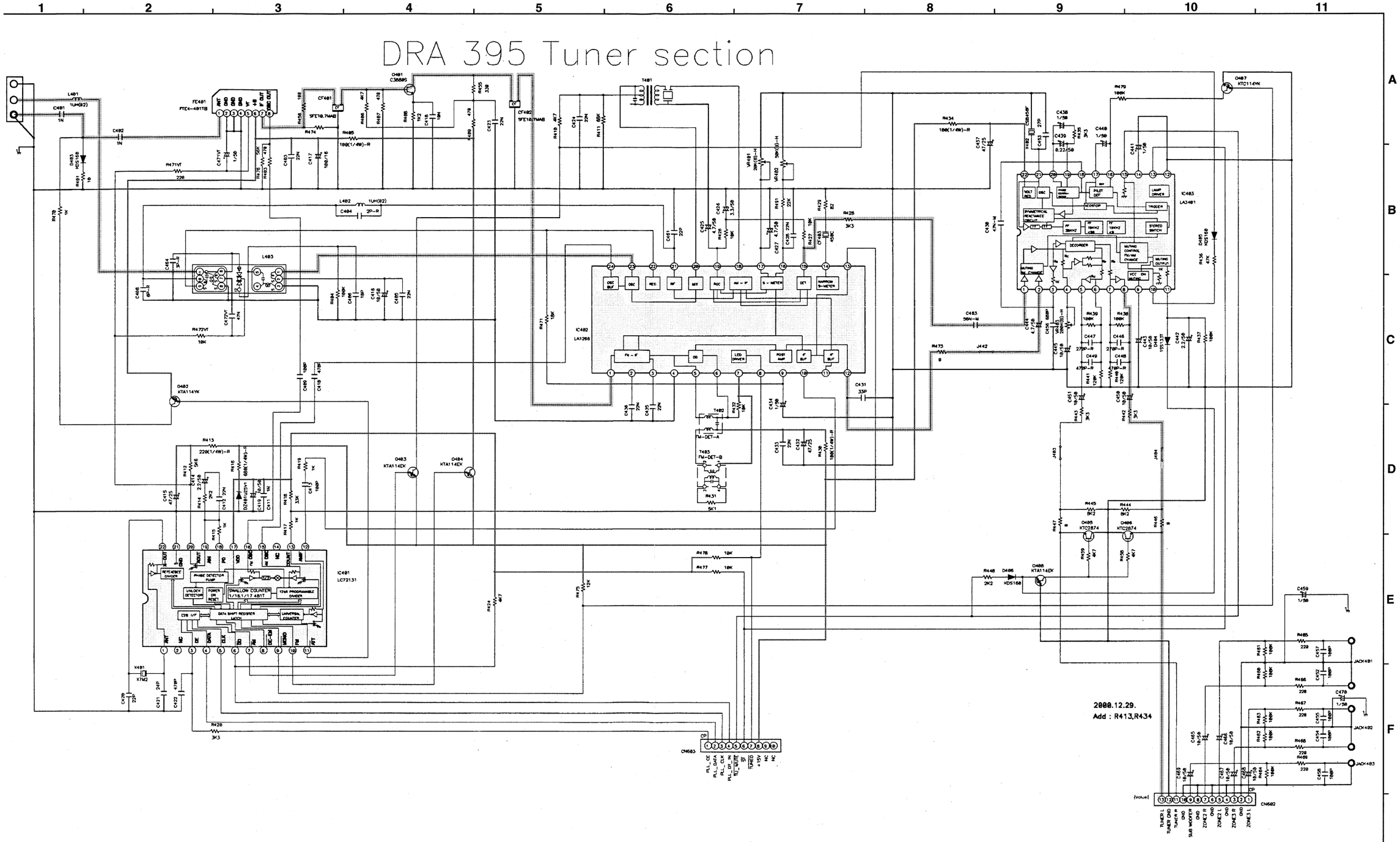
SIGNAL LINE

SCHEMATIC DIAGRAMS(5/6)

FRONT UNIT
SWITCH UNIT
POWER SW/HP UNIT

SCHEMATIC DIAGRAMS(6/6)

DRA 395 Tuner section



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WARNING:
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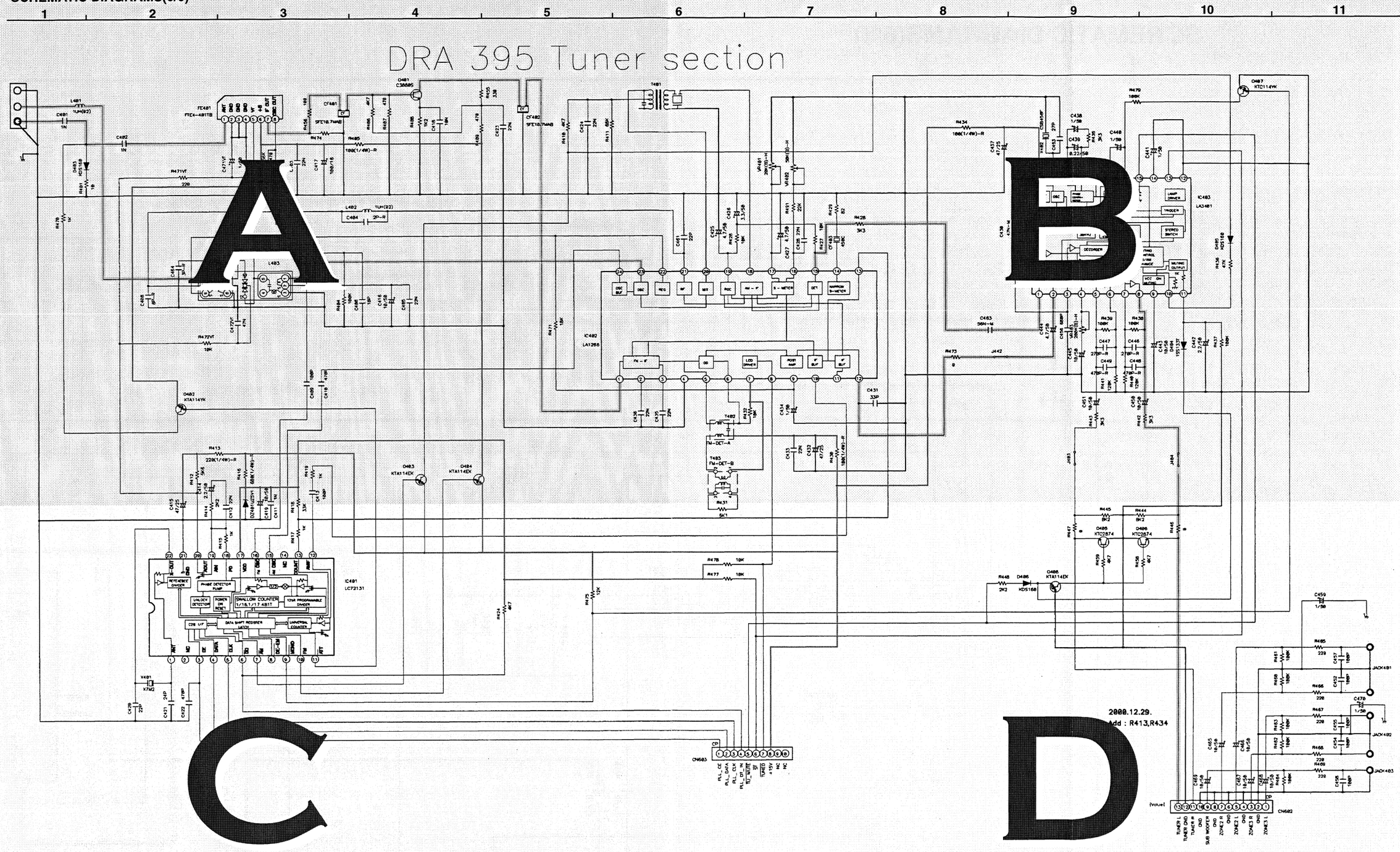
+ B LINE
SIGNAL LINE

SCHEMATIC DIAGRAMS(6/6)
TUNER UNIT

SCHEMATIC DIAGRAMS(6/6)

DRA 395 Tuner section



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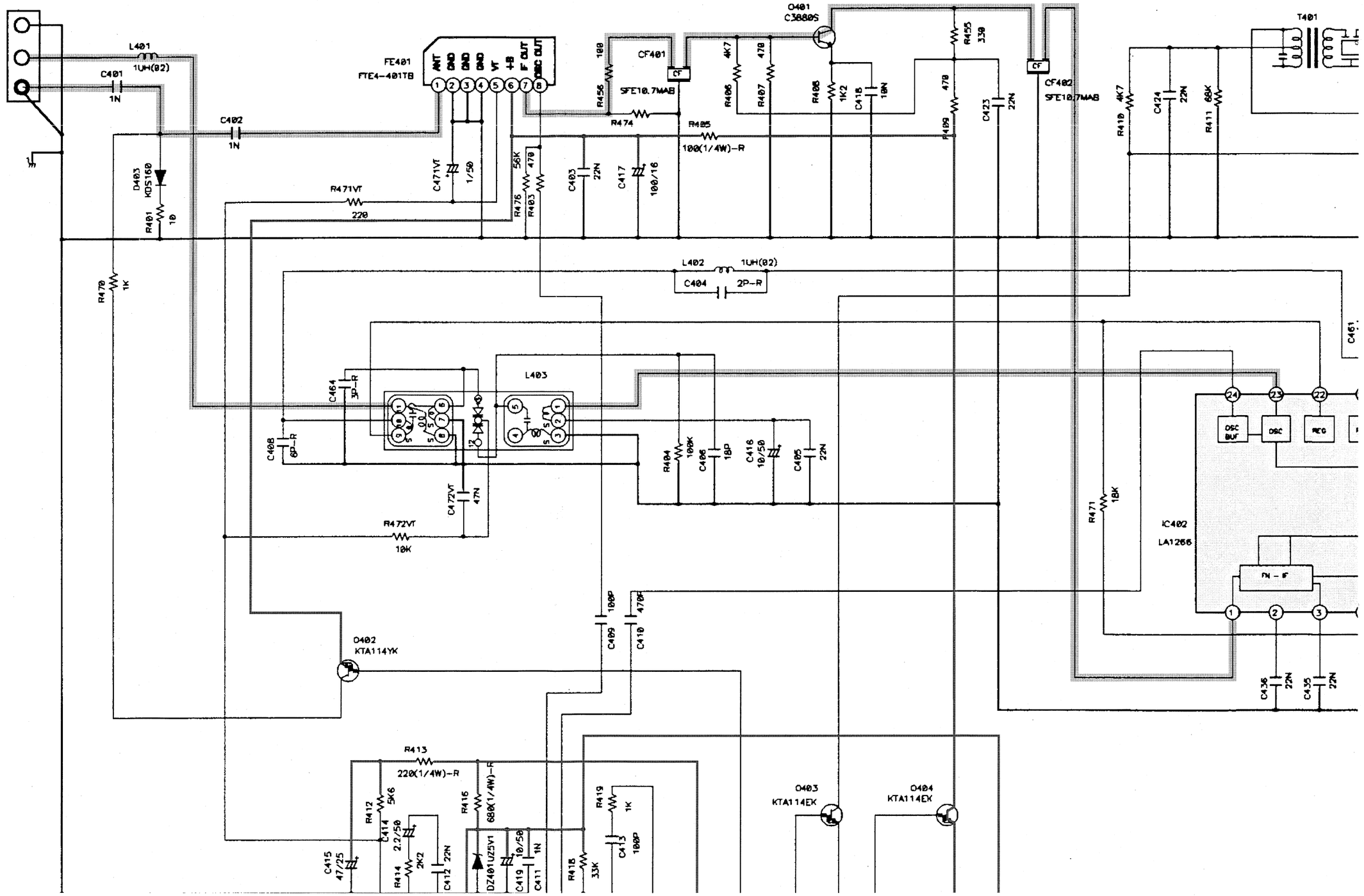
+ B LINE
SIGNAL LINE

SCHEMATIC DIAGRAMS(6/6)
TUNER UNIT

SCHEMATIC DIAGRAMS(6/6)

1 2 3 4 5 6

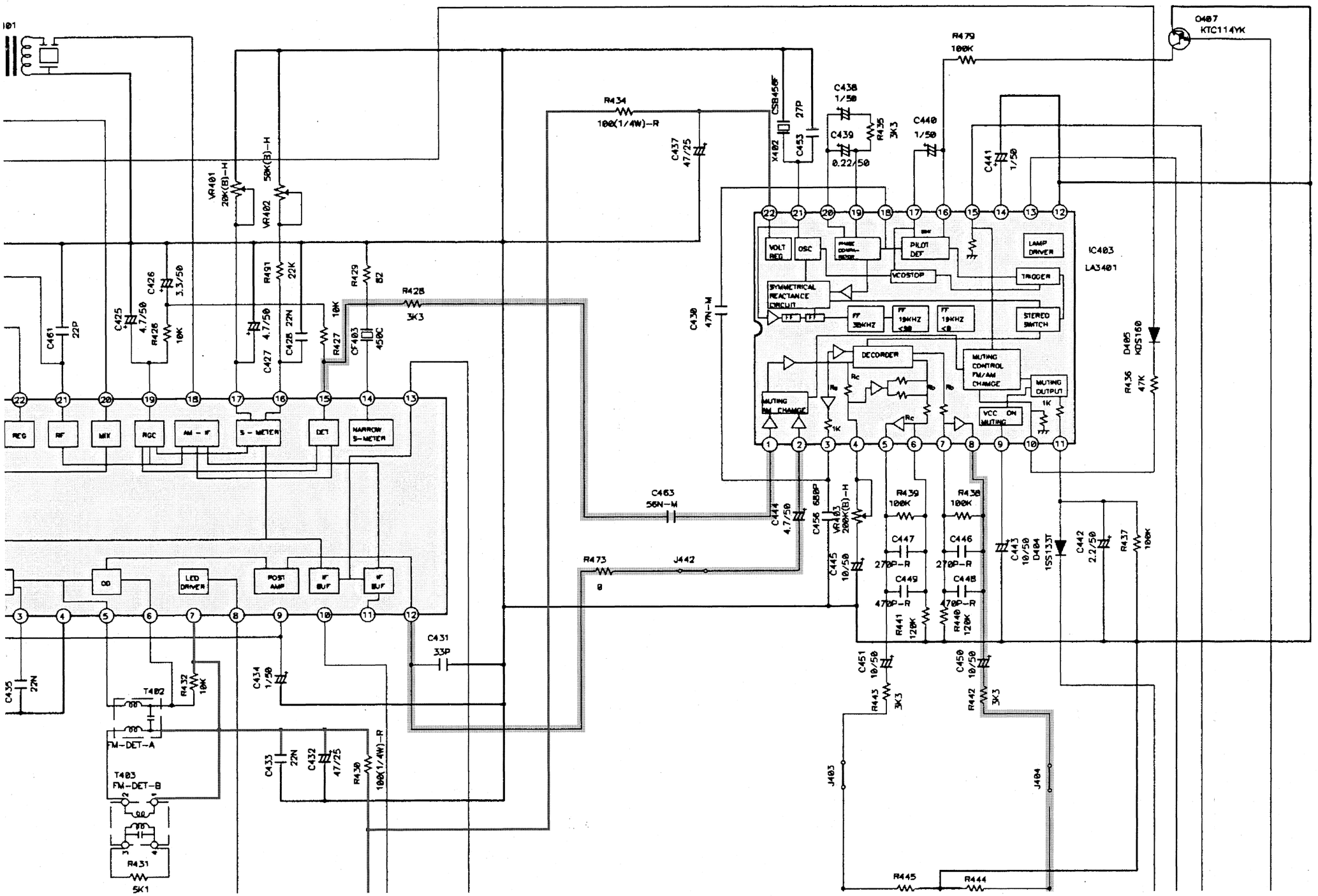
DRA 395 Tuner s

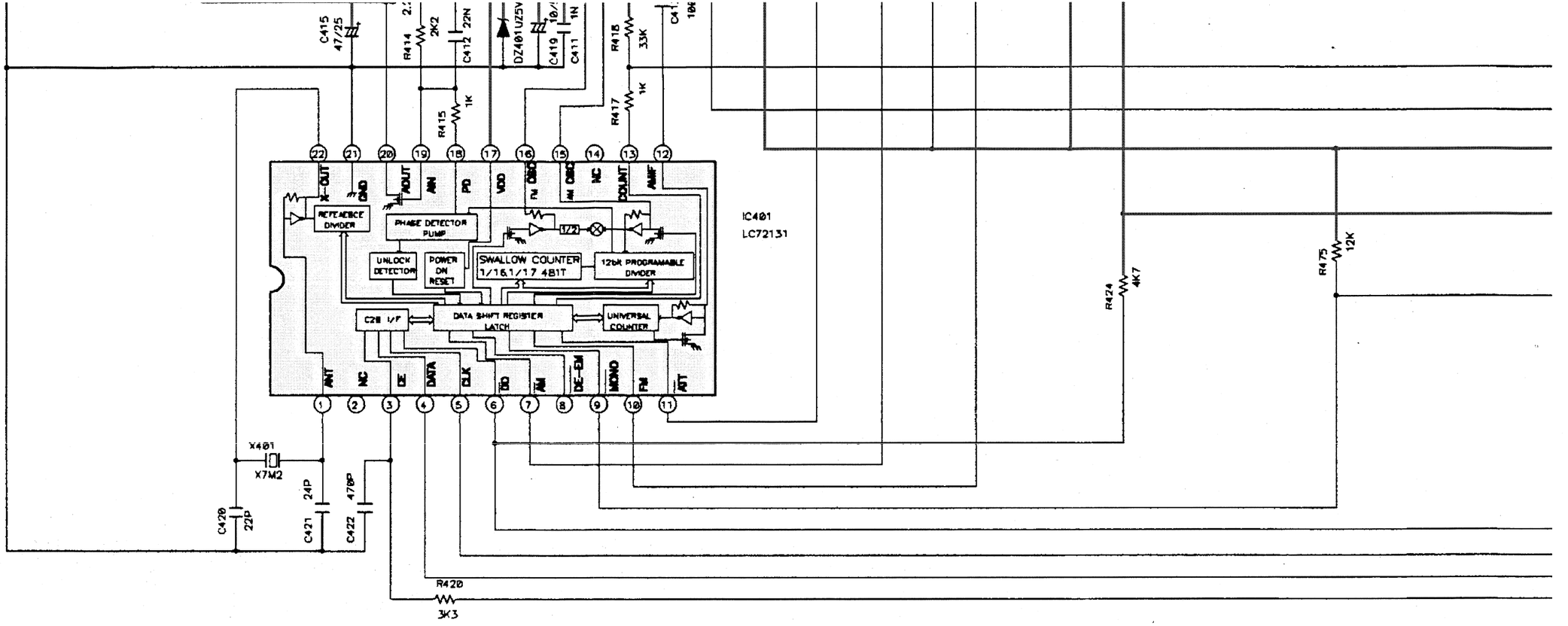


6 7 8 9 10 11

A B C D

section





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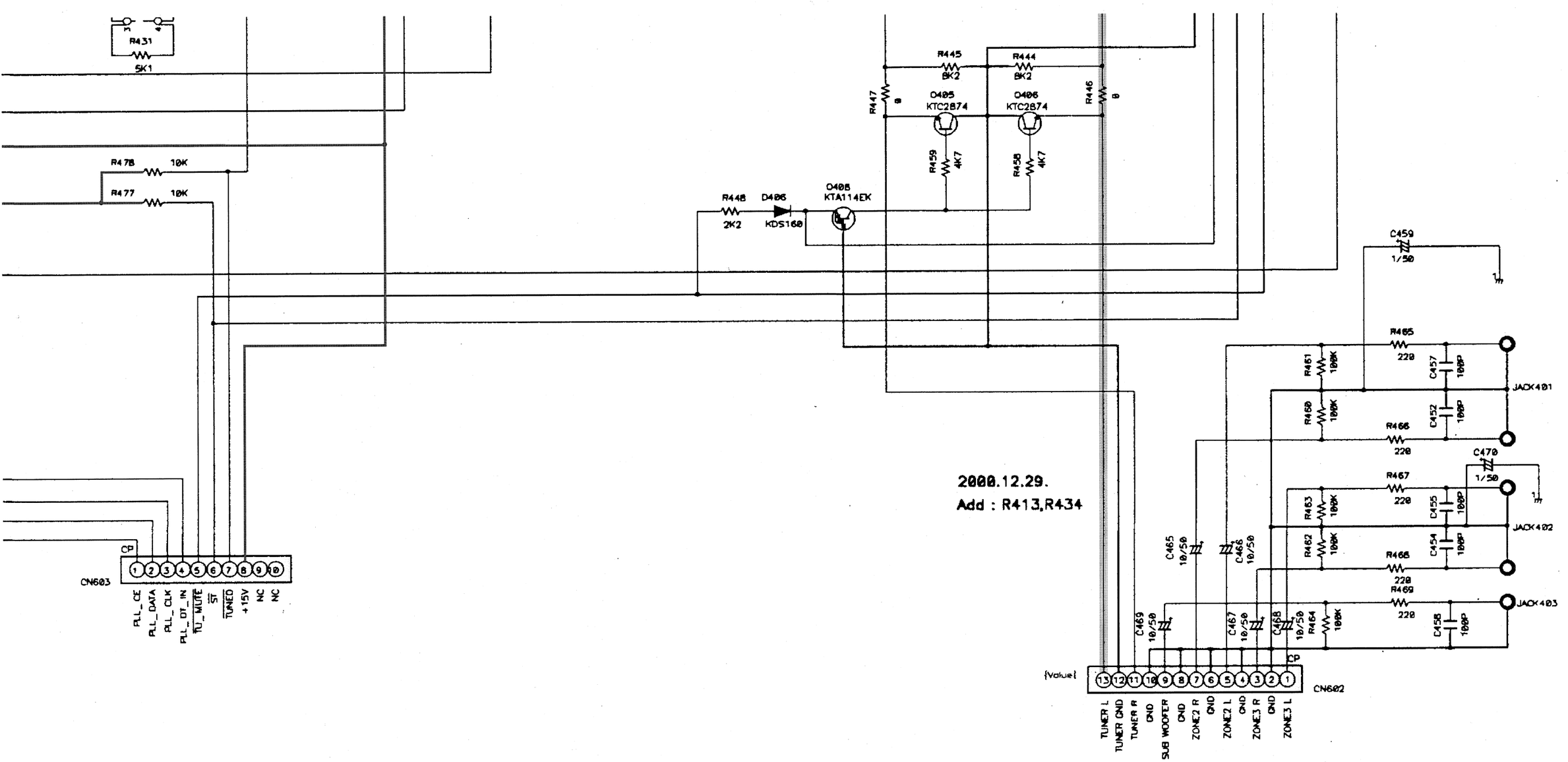
DO NOT return the unit to the customer
corrected.



have critical characteristics.
commended by the manufacture.

ustomer, make sure you make either (1) a
ıe to chassis resistance check. If the leakage
r if the resistance from chassis to either side
0kohms, the unit is defective.

ıstomer until the problem is located and

+ B LINE

SIGNAL LINE

SCHEMATIC DIAGRAMS(6/6)
TUNER UNIT

DENON

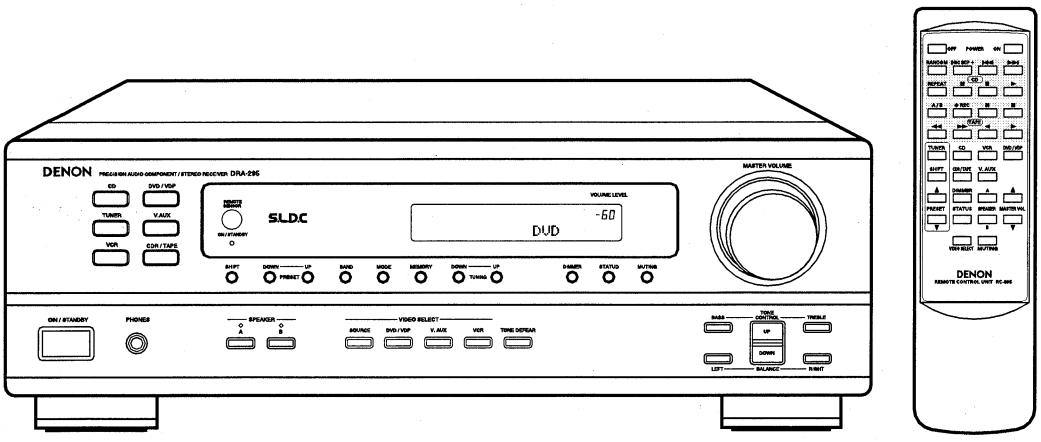
For U.S.A., Canada & Europe model

Hi-Fi AM-FM Stereo Receiver

SERVICE MANUAL

MODEL DRA-295

AM-FM STEREO RECEIVER



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• Some illustrations using in this service manual are slightly different from the actual set.

NIPPON COLUMBIA CO., LTD.

14-14, AKASAKA 4-CHOME, MINATO-KU, TOKYO 107-8011 JAPAN
Telephone: 03 (3584) 8111

X0118 842 NC 0108

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

SPECIFICATIONS

- **Audio Section**

(Power Amplifier)

Rated output:	50W + 50W (8Ω/ohms, 20Hz ~ 20kHz with 0.08% T.H.D.)
Output terminals:	A or B 4 to 16Ω/ohms
	A + B 8 to 16Ω/ohms

(Analog)

LINE input - PRE OUT

Input sensitivity/input impedance:	200mV/47kΩ/kohms
Frequency response:	10Hz ~ 50kHz: ±1.5dB
S/N ratio:	98 dB (IHF-A weighted)
Total harmonic distortion:	0.009% (–3dB at rated output, 8Ω/ohms) (1kHz)
Rated output:	1.2V

- **Video Section (U.S.A. & Canada model)**

(Standard Video Jacks)

Input/output level and impedance:	1V p-p, 75Ω/ohms
Frequency response:	5Hz ~ 10MHz +1, –3dB

- **Tuner Section**

	[FM] (note: μV at 75Ω/ohms, 0dBf = 1×10^{-15}W)	**[AM]**
Receiving range:		
U.S.A. & Canada model	87.50MHz ~ 107.90MHz	520kHz ~ 1710kHz
Europe model	87.50MHz ~ 108.00MHz	522kHz ~ 1611kHz
Usable sensitivity:	1.4μV (14.2dBf)	18μV
50dB quieting sensitivity:	MONO 2.8μV (20.2dBf)	
	STEREO 23μV (38.5dBf)	
S/N ratio:	MONO 80dB (IHF-A weighted)	
	STEREO 75dB (IHF-A weighted)	
Total harmonic distortion:	MONO 0.15% (1kHz)	
	STEREO 0.3% (1kHz)	

- **General**

Power supply:	AC120V, 60Hz (For U.S.A. & Canada model)
	AC230V, 50Hz (For Europe model)
Power consumption:	3.0A (For U.S.A. & Canada model)
	150W (For Europe model)
Maximum external dimensions:	434 (W) × 147 (H) × 417 (D) mm (17-3/32″ × 5-25/32″ × 16-27/64″)
Weight:	9.2kg (20lbs 4.5oz)

- **Remote Control Unit**

	RC-895 (For U.S.A. & Canada model)
	RC-907 (For Europe model)
Batteries:	R06P/AA Type (two batteries)
External dimensions:	50 (W) × 179 (H) × 22 (D) mm (1-31/32″ × 7-3/64″ × 55/64″)
Weight:	125g (Approx. 7.5 oz) (including batteries)

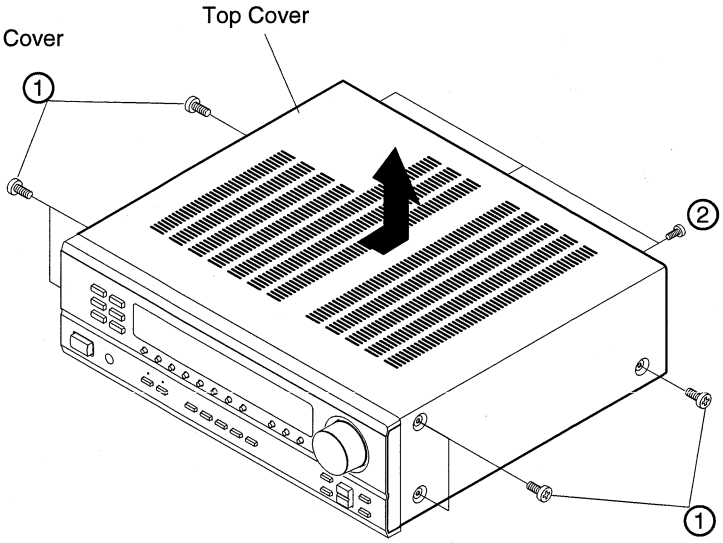
* For purposes of improvement, specifications and design are subject to change without notice.

DISASSEMBLY

(Follow the procedure below in reverse order when reassembling)

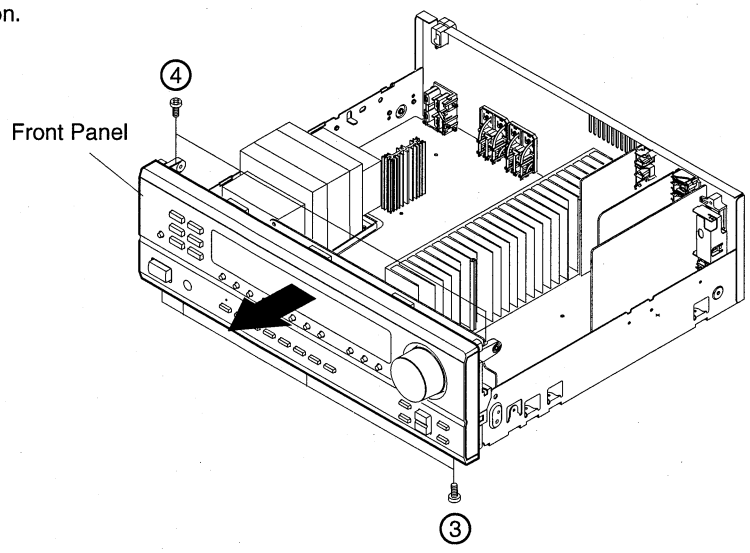
Top Cover

Remove 6 screws ① and 3 screws ②, detach the Top Cover in the arrow direction.



Front Panel

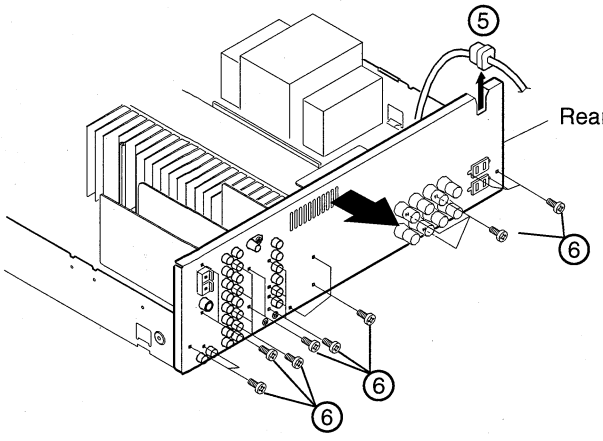
1. Remove 4 screws ③ and 2 screws ④.
2. Detach the Front Panel in the arrow direction.



Rear Panel

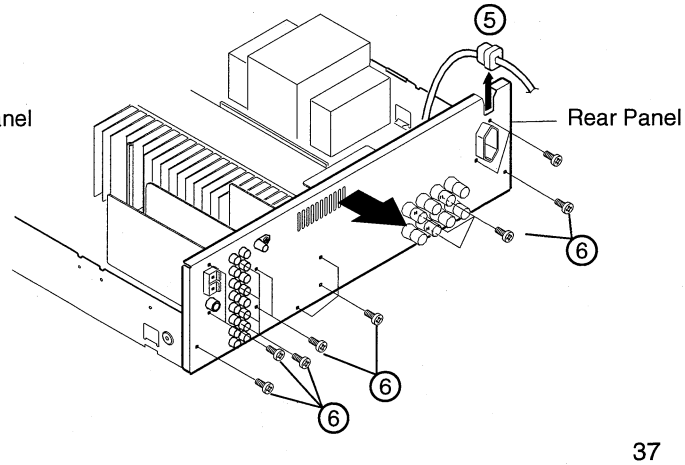
U.S.A. & Canada model

1. Remove cord bushing ⑤ from the Rear Panel.
2. Remove 23 screws ⑥.
3. Detach the Rear Panel in the arrow direction.



Europe model

1. Remove cord bushing ⑤ from the Rear Panel.
2. Remove 17 screws ⑥.
3. Detach the Rear Panel in the arrow direction.

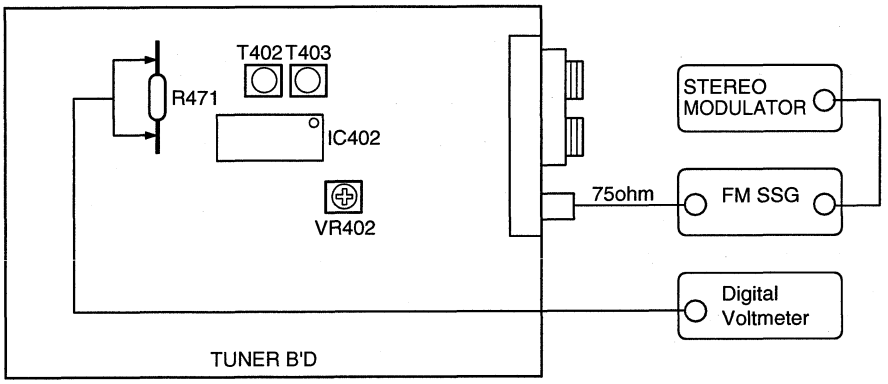


ADJUSTMENT

Tuner Section

CONNECTION DIAGRAM OF MEASURING INSTRUMENTS

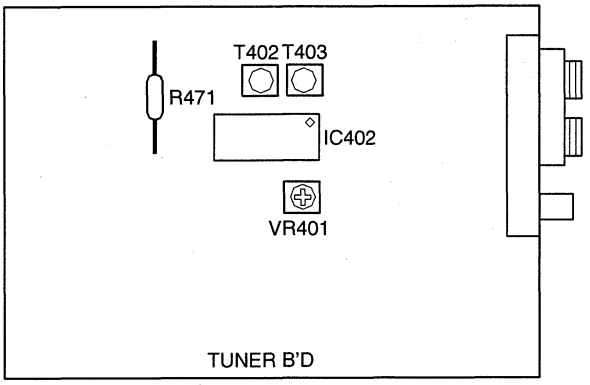
● **FM**



FM ALIGNMENT

Step	Alignment Item	Tuning Frequency Setting	Input					Output		Adjustment	
			Type	Frequency	Input Level	Modulation	Coupling	Type	Connect to	Points	Adjust to
1	Center Adjustment	98.1MHz (98.0MHz)	FM SSG	98.1MHz	60dBμ	Mono 1kHz 100%	Antenna Terminal	Digital Voltmeter	R471	T402	± 50mV
2	Distortion	98.1MHz (98.0MHz)	FM SSG	98.1MHz	60dBμ	Mono 1kHz 100%	Antenna Terminal	Distortion Meter	Output Terminal (L)	T403	Minimum Distortion
3	Repeat Steps 1 and 2										
4	Signal Level	98.1MHz (98.0MHz)	FM SSG	98.1MHz	20dBμ	OFF	Antenna Terminal	Light "TUNED" on FL Display		VR402	20^{+14}_{-10} dB

● **AM**



AM ALIGNMENT

Step	Alignment Item	Frequency	Input	Output		Adjustment		Remarks
				Type	Connect to	Points	Adjust to	
1	Signal Level	999 (1000) kHz	AM SSG	—	—	VR401	Light "TUNED" on FL Display	SSG OUTPUT 74dBμ (EMF)

Audio Section

Idling Current

Required measurement equipment : DC Voltmeter

Preparation

(1) Avoid direct blow from an air conditioner or an electric fan, and adjust the unit at normal room tempereture 15 °C ~ 30 °C (59 °F ~ 86 °F).

(2) Presetting
- POWER (Power sourse switch) → OFF
- SPEAKER (Speaker terminal) → No load (Do not connect speaker, dummy resistor, etc.)

Adjustment

(1) Remove top cover and set VR101, VR102 on Amp. Unit at full counterclockwise (↺) position.

(2) Connect DC Voltmeter to test points (Lch: TP101, Rch: TP102).

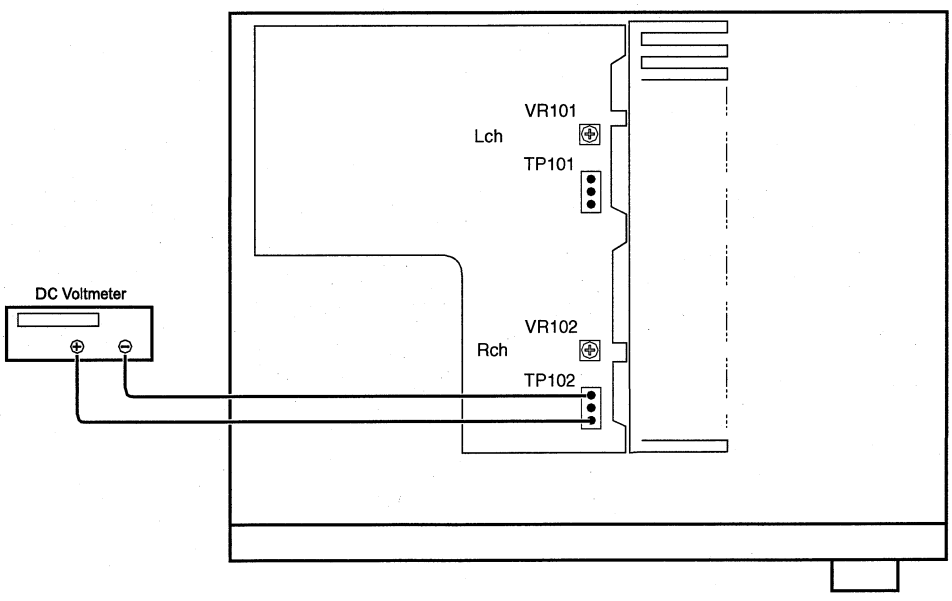
(3) Connect power cord to AC Line, and turn power switch "ON".

(4) Presetting. MASTER VOLUME : "---" counterclockwise (↺ min.)
FUNCTION : CD

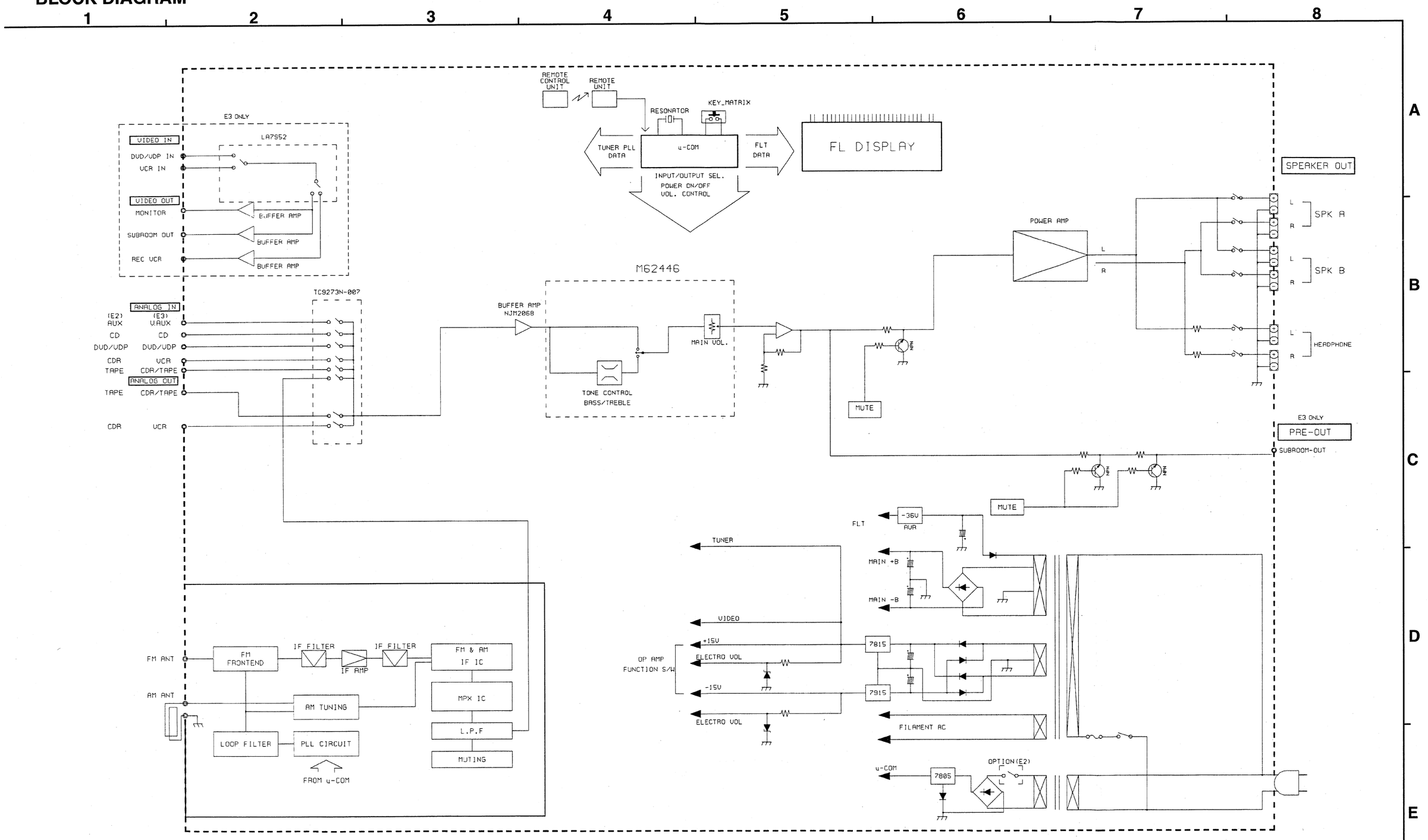
(5) Within 2 minutes after the power on, turn VR101 clockwise (↻) to adjust the TEST POINT voltage to 1.5 mV ±0.5 mV DC.

(6) After 10 minutes from the preset above, turn VR101 to set the voltage to 2.5 mV ±0.5 mV DC.

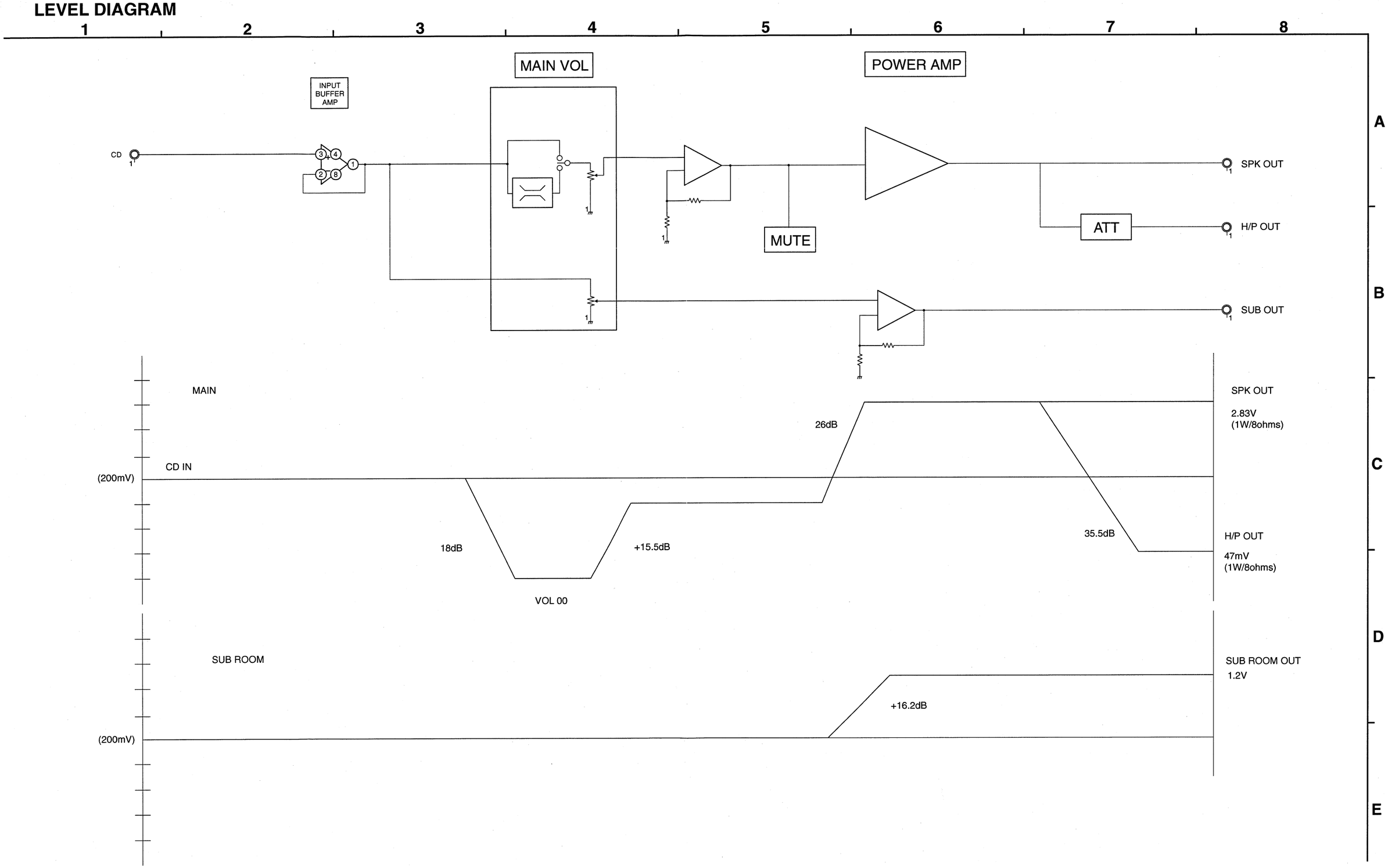
(7) Adjust the Variable Resistors of other channels in the same way.



BLOCK DIAGRAM



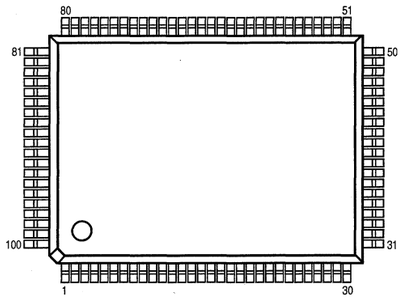
LEVEL DIAGRAM



SEMICONDUCTORS

● IC's

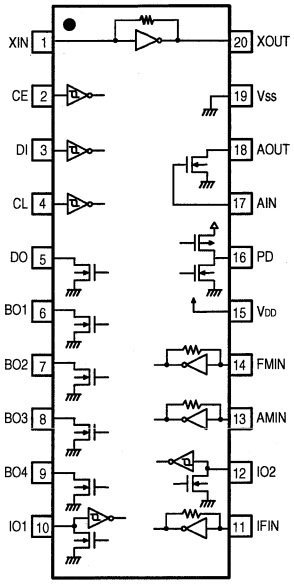
CXP82840-321Q (IC900)



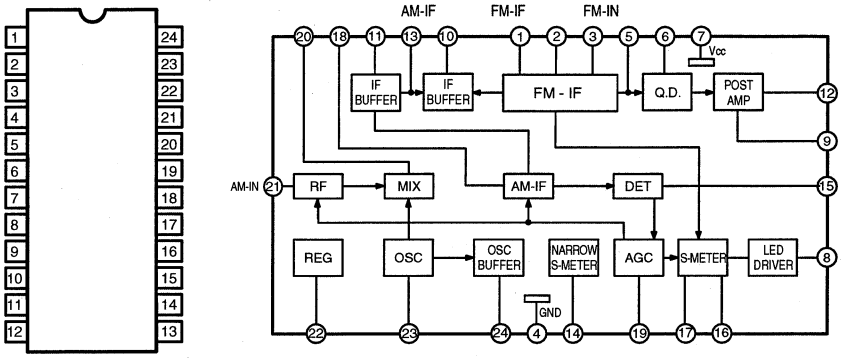
CXP82840-321Q Terminal Function

Pin No.	Pin Name	I/O	Function
1	G2/A1	O	FL G02
2	G1/A0	O	FL G01
3	NC(Vdd)	I	NC(Connect to Vdd)
4	POWER DOWN	I	AC OFF Detect
5	ENC VOLUME UP	I	Encoder VOLUME UP
6	RDS CLOCK	I	RDS clock input(TDA7330)
7	ENC VOLUME DOWN	I	Encoder VOLUME DOWN
8	REMOCON	I	Remote signal input.
9	PROTECTION	I	Protection detecting input.
10	SUB ZONE2 LED	O	Not used.
11	SUB ZONE1 LED	O	Not used.
12	62446 LATCH	O	Electronic volume control.(M62446 LATCH)
13	FUNCTION SW 1 CE	O	Function IC control.(TC9273 ST)
14	FUNCTION 1/2 DATA	O	Function IC control.(TC9273 DATA)
15	FUNCTION 1/2 CLOCK	O	Function IC control.(TC9273 CLOCK)
16	VOLUME,PLL,4094,DATA	O	LC72131,M62446,TC4094(DATA)
17	VOLUME,PLL,4094,CLOCK	O	LC72131,M62446,TC4094(CLOCK)
18	TUNED	I	TUNED signal in.
19	STEREO	I	STEREO signal in.
20	IF COUNT	I	PLL data in.(LC72131)
21	TUNER MUTE	O	Tuner mute output.
22	PLL CE	O	LC72131(CE)
23	4094 STB	O	TC4094(STB)
24	VOLUME STB	O	Not used.
25	SUB 1 MUTE	O	Not used.
26	MAIN MUTE	O	MAIN,Subwoofer mute output.
27	POWER RELAY	O	Power supply relaycontrol.
28	AV REF.	I	Reference voltage input for A/D converter.
29	1511 DATA	O	Not used.
30	RDS DATA	I	RDS data input(TDA7330)
31	KEY IN 1	I	Key input 1
32	KEY IN 2	I	Key input 2
33	KEY IN 3	I	Key input 3
34	STEP OPTION	I	Area select.
35	SET OPTION	I	Model select.
36	SPEAKER A LED 1	O	SPEAKER A LED indicator control
37	A VSS	I	A/D converter GND.
38	RESET	I	Low-level active,system reset.
39	EXTAL	I	EXTAL(10MHz)
40	XTAL	O	XTAL(10MHz)
41	VSS	I	GND
42	NC(TX)	O	Not used.
43	G(TEX)	I	GND
44	VDD	I	Vcc SUPPLY.
45	VFDP	I	FDP voltage supply.
46	SPEAKER B LED 2	O	SPEAKER B LED indicator control
47	STBY LED 3	O	STANDBY LED indicator control
48	PD2/A53	O	FL P38
49	PD3/A52	O	FL P37
50	PD4/A51	O	FL P36
51	PD5/A50	O	FL P01
52	PD6/A49	O	FL P02
53	PD7/A48	O	FL P03
54	PF0/A47	O	FL P04
55	PF1/A46	O	FL P05
56	PF2/A45	O	FL P06
57	PF3/A44	O	FL P07
58	PF4/A43	O	FL P08
59	PF5/A42	O	FL P09
60	PF6/A41	O	FL P10
61	PF7/A40	O	FL P11
62	PG0/A39	O	FL P12
63	PG1/A38	O	FL P13
64	PG2/A37	O	FL P14
65	PG3/A36	O	FL P15
66	PG4/A35	O	FL P16
67	PG5/A34	O	FL P17
68	PG6/A33	O	FL P18
69	PG7/A32	O	FL P19
70	PH0/A31	O	FL P20
71	PH1/A30	O	FL P21
72	PH2/A29	O	FL P22
73	PH3/A28	O	FL P23
74	PH4/A27	O	FL P24
75	PH5/A26	O	FL P25
76	PH6/A25	O	FL P26
77	PH7/A24	O	FL P27
78	A23	O	FL P28
79	A22	O	FL P29
80	A21	O	FL P30
81	A20	O	FL P31
82	A19	O	FL P32
83	A18	O	FL P33
84	A17	O	FL P34
85	A16	O	FL P35
86	G16	O	FL G16
87	G15	O	FL G15
88	G14	O	FL G14
89	Vdd	I	Vcc SUPPLY.
90	G13	O	FL G13
91	G12	O	FL G12
92	G11	O	FL G11
93	G10	O	FL G10
94	G9	O	FL G09
95	G8	O	FL G08
96	G7	O	FL G07
97	G6	O	FL G06
98	G5	O	FL G05
99	G4	O	FL G04
100	G3	O	FL G03

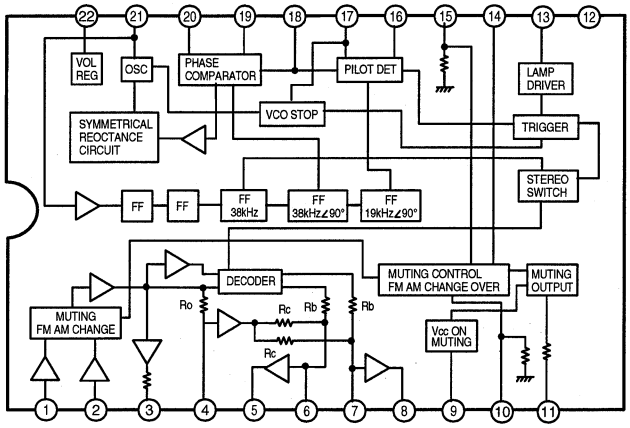
LC72131M (IC401)



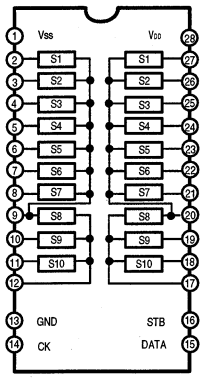
LA1266 (IC402)



LA3401 (IC403)



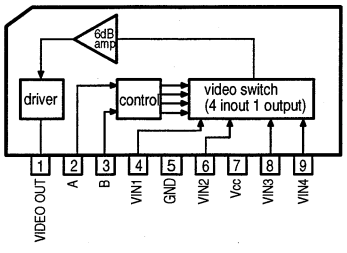
TC9273N-007 (IC300)



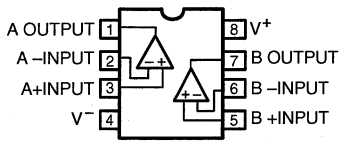
● TC9273N Terminal Function

Pin No	Symbol	Name	Function	
1	Vss	+Power Terminal	Dual Power Use:VDD = 8.0~17 V Single Power Use:VDD = 8.0~18V	
13	GND	Digital Ground	GND=0V GND=0V	
28	VDD	+Power Terminal	Vss=-8.0~-17V	
2~12 12~27	S1~S10	I/O Terminal	Input terminal of analog switch.	
14	CK	Clock Input	Clock input for data transfer.	Low level Border Input Terminal
15	DATA	Data Input	Serial input for switch setting.	
16	STB	Strobe Input	Strobe InputStrobe input for data writing.	

LA7952 (IC500) (U.S.A./Canada model)

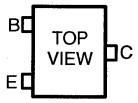


NJM2068DD (IC301,602)

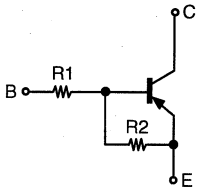


● TRANSISTORS

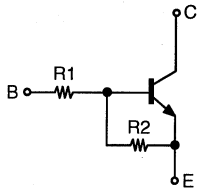
DTA114EK
DTA114YK
DTC114YK



DTA series



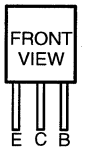
DTC series



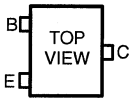
	R1	R2
DTA114EK	10kohm	10kohm
DTA114ES	10kohm	10kohm
DTA114YK	10kohm	47kohm
DTA114ES	47kohm	47kohm

	R1	R2
DTC114ES	10kohm	10kohm
DTC114YK	10kohm	47kohm
DTC114YS	10kohm	47kohm
DTC144ES	47kohm	47kohm

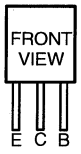
DTA114ES
DTA144ES
DTC114ES
DTC114YS
DTC144ES



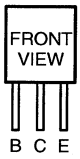
KTC3880S



2SD947F
KTA1266Y
KSA992F
KSC1845F
KTC3200BL
KTC3198Y
KTA1268BL
KSA916Y
2SC1740S
KTC2874B

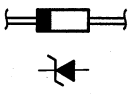


2SB1559
2SD2389

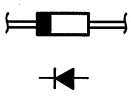


● DIODES (LED Included)

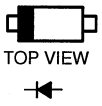
MTZJ3.3B
MTZJ5.1B
MTZJ5.6B
MTZJ6.2B
MTZJ6.8B
MTZJ7.5A
MTZJ7.5B
MTZJ18B
MTZJ20B



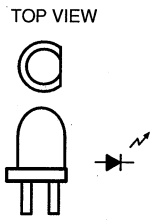
1N4007
1SS133



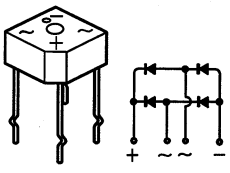
KDS160



HL-50RDRF4

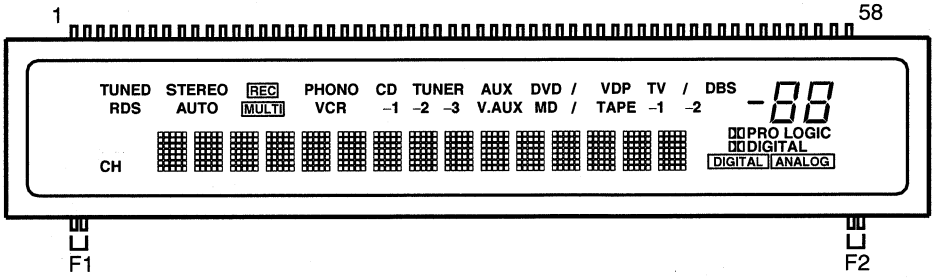


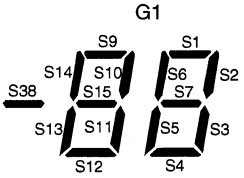
KBPC604



● FL DISPLAY

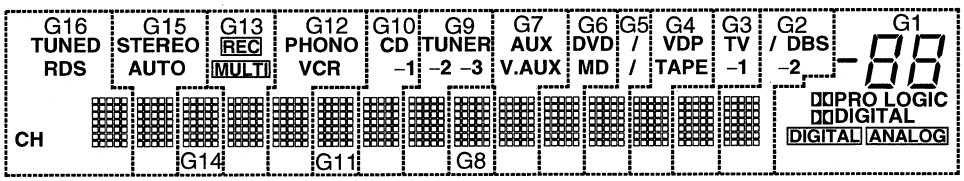
16-st-42GNK (FL900)





G2~G16

S1	S2	S3	S4	S5
S6	S7	S8	S9	S10
S11	S12	S13	S14	S15
S16	S17	S18	S19	S20
S21	S22	S23	S24	S25
S26	S27	S28	S29	S30
S31	S32	S33	S34	S35



Pin Assignment

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CONNECTION	F1	F1	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18
PIN NO.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CONNECTION	S19	S20	S21	S22	S23	S24	S25	S26	S27	S28	S29	S30	S31	S32	S33	S34	S35	S36	S37	S38
PIN NO.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58		
CONNECTION	G16	G15	G14	G13	G12	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1	F2	F2		

F1,F2 : Filament
G1~G16 : Grid
S1~S38 : Anode

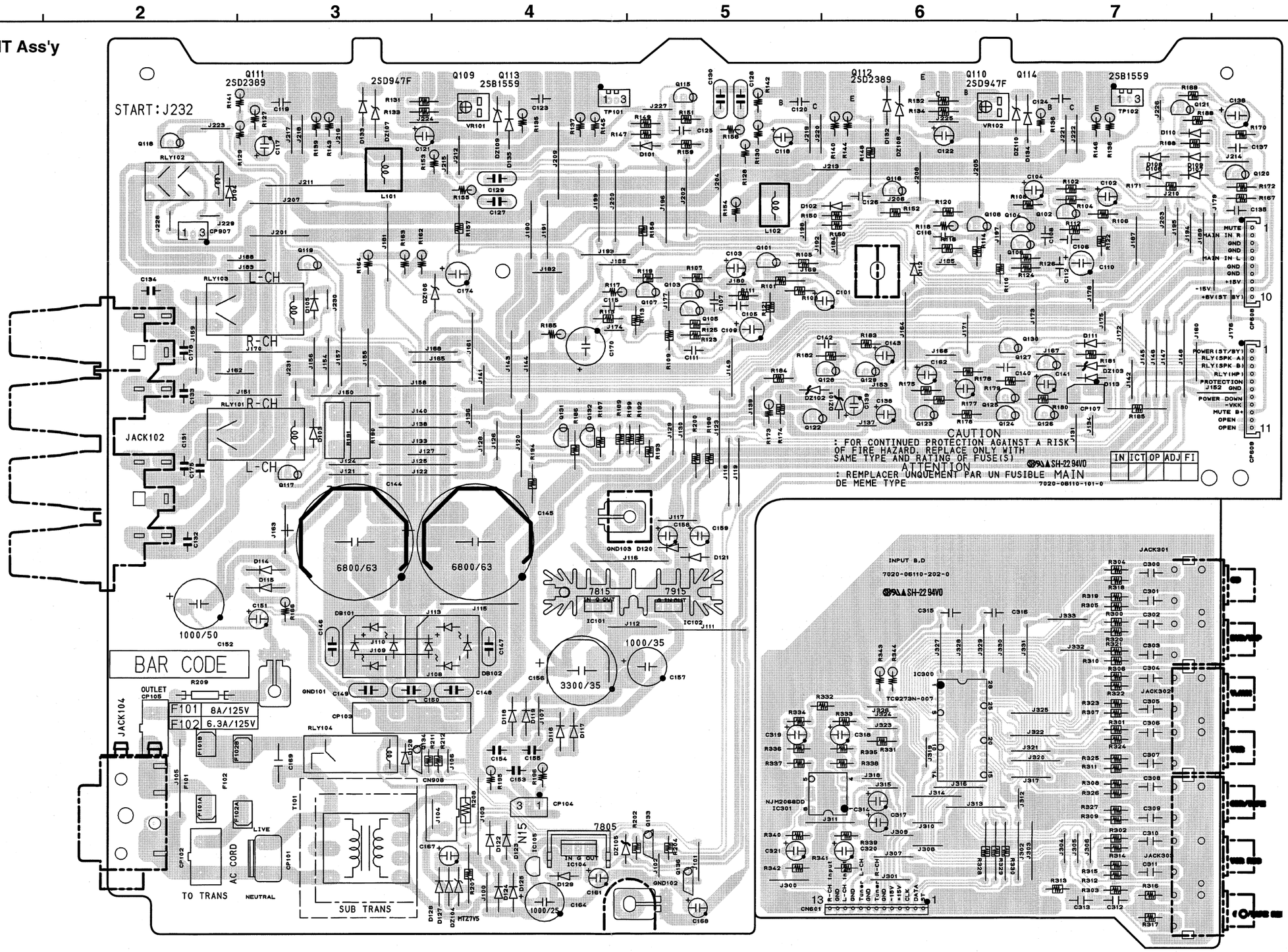
Anode & Grid Assignment

	G1	G2~G16		G1	G2~G16		G1	G2~G16		G1	G2~G16
S1	S1	S1	S10	S10	S10	S19	—	S19	S28	—	S28
S2	S2	S2	S11	S11	S11	S20	—	S20	S29	—	S29
S3	S3	S3	S12	S12	S12	S21	—	S21	S30	—	S30
S4	S4	S4	S13	S13	S13	S22	—	S22	S31	—	S31
S5	S5	S5	S14	S14	S14	S23	—	S23	S32	—	S32
S6	S6	S6	S15	S15	S15	S24	—	S24	S33	—	S33
S7	S7	S7	S16	—	S16	S25	—	S25	S34	—	S34
S8	—	S8	S17	DIGITAL	S17	S26	—	S26	S35	—	S35
S9	S9	S9	S18	PRO LOGIC	S18	S27	—	S27			

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15	G16
S36	DIGITAL	/	TV	VDP	/(DVD)	DVD	AUX	—	TUNER	CD	—	PHONO	REC	—	STEREO	TUNED
S37	ANALOG	–2	–1	TAPE	/(MD)	MD	V.AUX	—	–2	–1	—	VCR	MULTI	—	AUTO	RDS
S38	S38	DBS	—	—	—	—	—	—	–3	—	—	—	—	—	—	CH

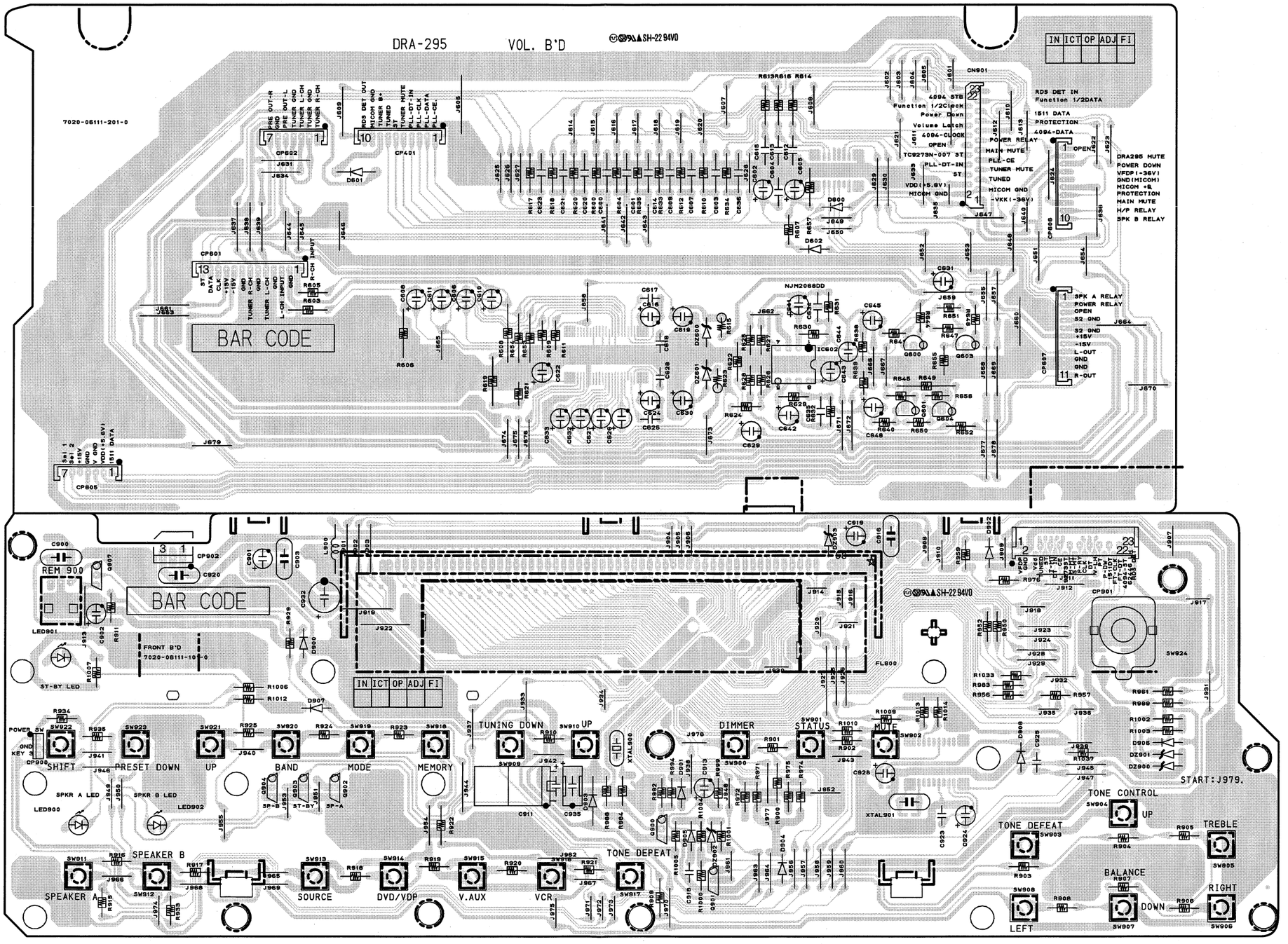
PRINTED WIRING BOARDS

MAIN P.W.B. UNIT Ass'y

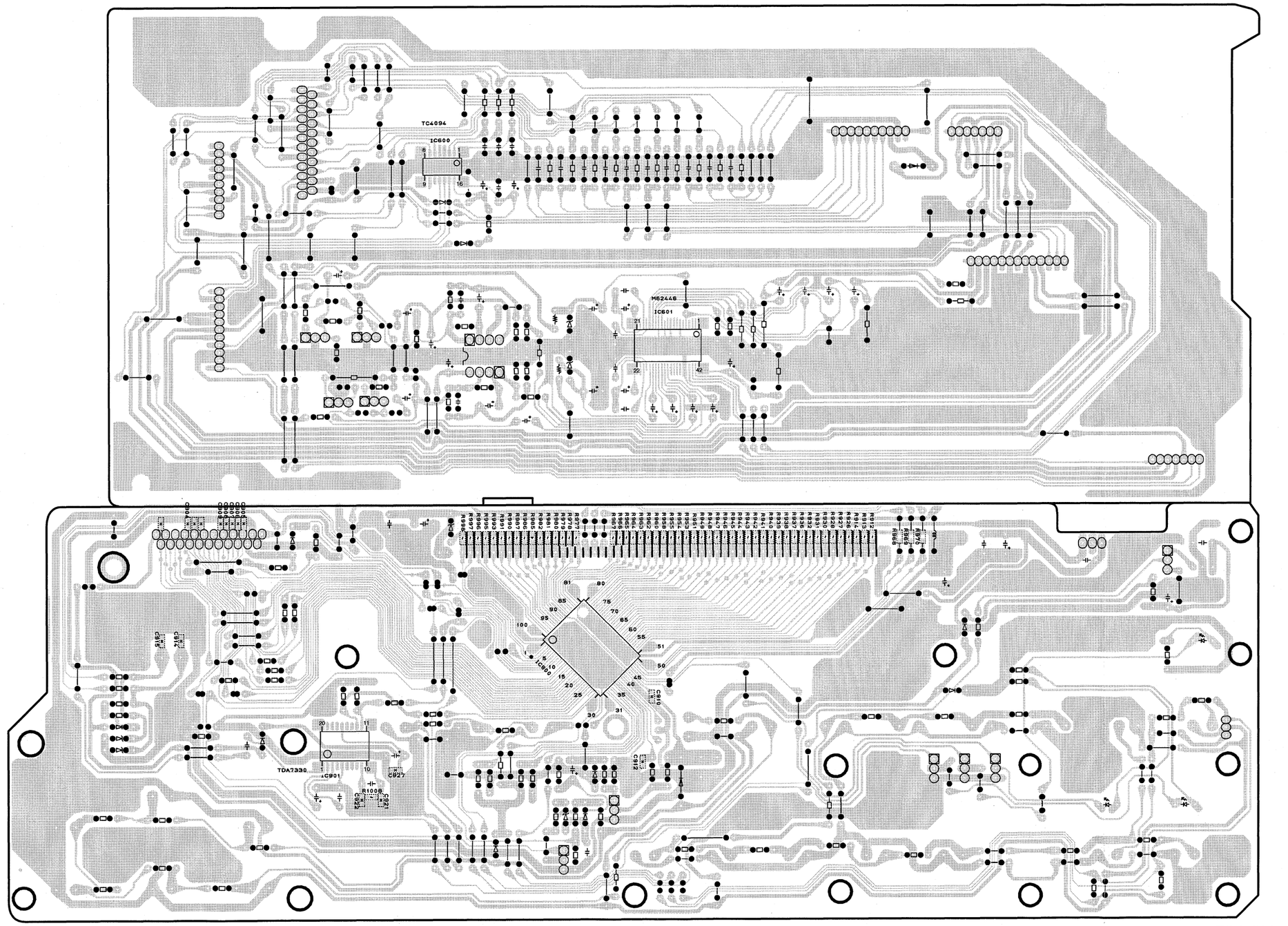


COMPONENT SIDE

VOLUME P.W.B. UNIT Ass'y

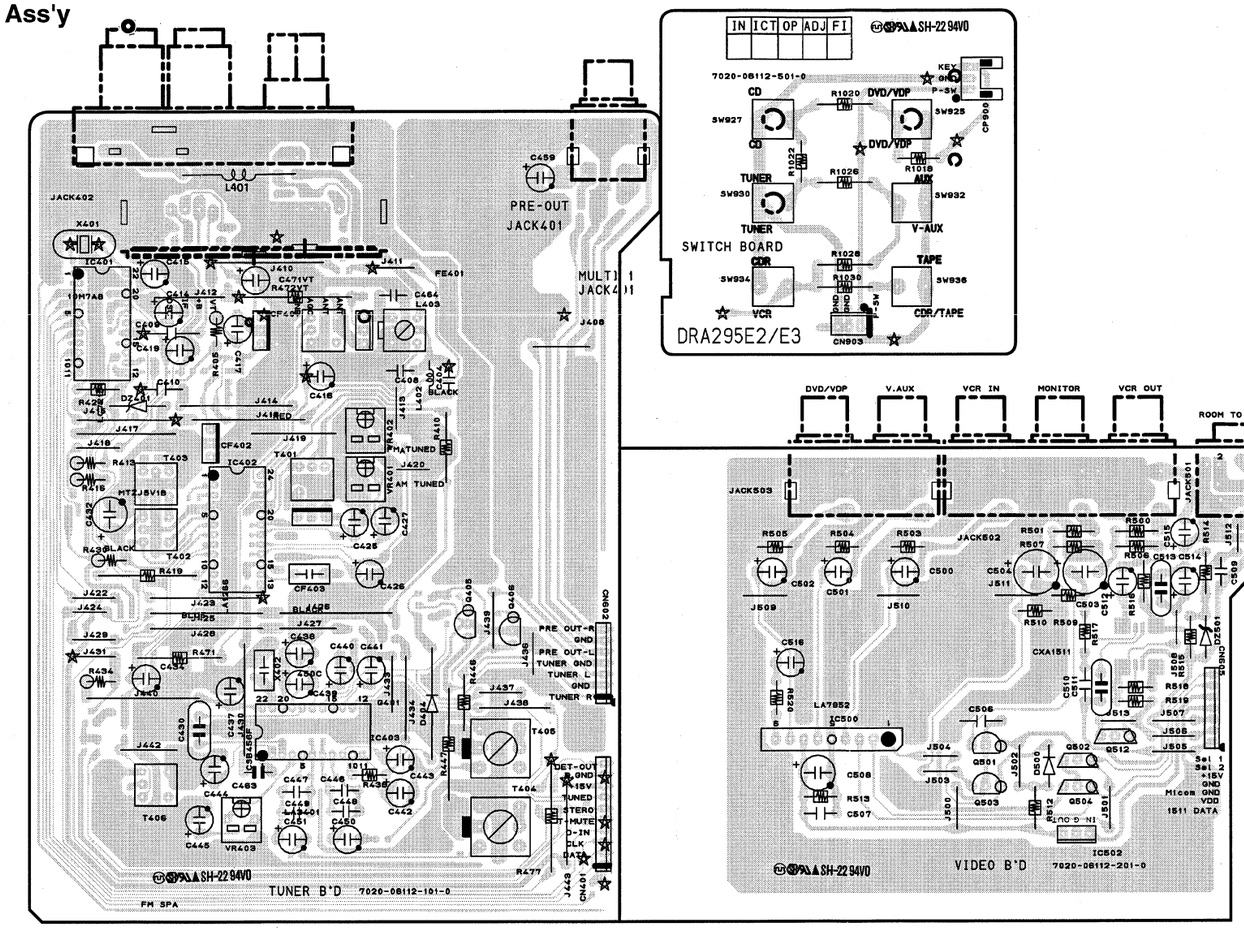


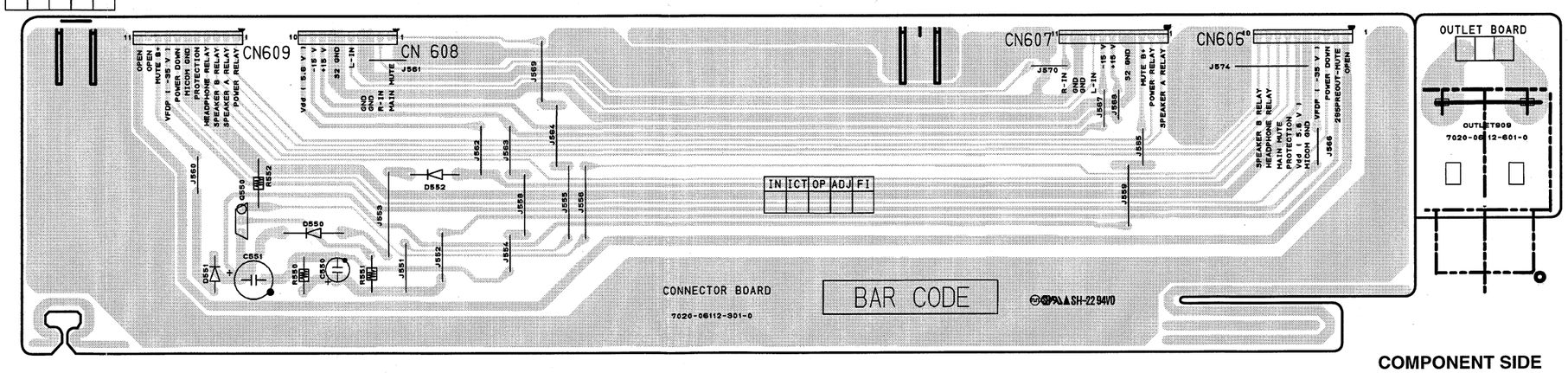
COMPONENT SIDE


1
2
3
4
5
6
7
8
A
B
C
D
E
TC4094
IC600
M62446
IC601
TDA7330
IC901
IC800
C810
C812
C827
R1008

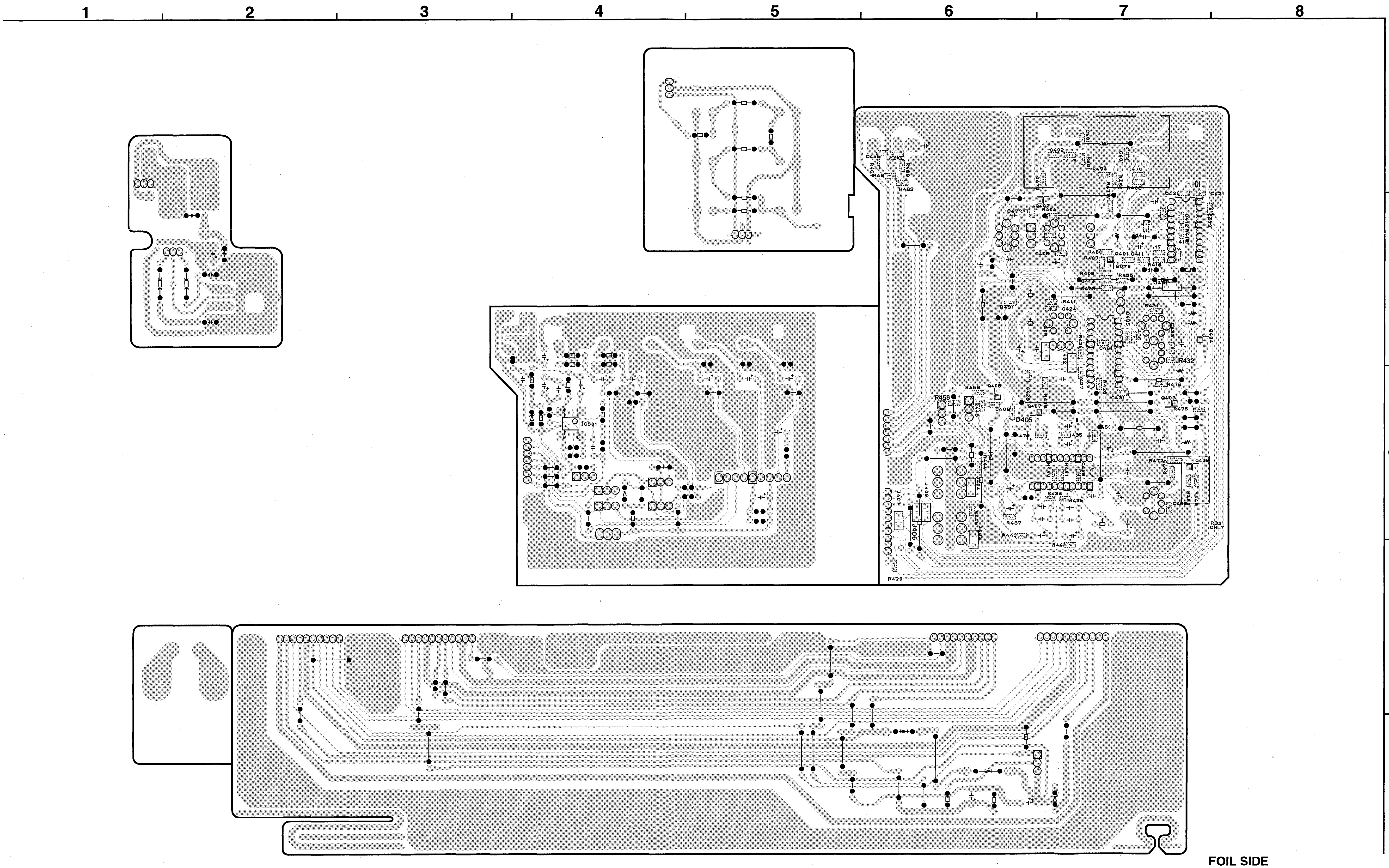
FOIL SIDE

TUNER P.W.B. UNIT Ass'y





COMPONENT SIDE


1
2
3
4
5
6
7
8
A
B
C
D
E
IC501
R458
D405
Q403
Q409
R432
J406
R420
RDS ONLY

FOIL SIDE

NOTE FOR PARTS LIST

- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN (Type) 14K (Shape and performance) 2E (Power) 182 (Resistance) G (Allowable error) FR (Others)

RD : Carbon	2B : 1/8W	F : ±1%	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : ±2%	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : ±5%	NB : Non-burning type
RW : Winding	3A : 1W	K : ±10%	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

*** Resistance**

1 8 2 ⇒ 1800 ohm = 1.8 kohm
- 2: Indicates number of zeros after effective number.
- 1 8: 2-digit effective number.

• Units: ohm

1 R 2 ⇒ 1.2 ohm
- 2: 1-digit effective number.
- 1 R: 2-digit effective number, decimal point indicated by R.

• Units: ohm

● Capacitors

Ex.: CE (Type) 04W (Shape and performance) 1H (Dielectric strength) 2R2 (Capacity) M (Allowable error) BP (Others)

CE : Aluminum foil electrolytic	0J : 6.3V	F : ±1%	HS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : ±2%	BP : Non-polar type
CS : Tantalum electrolytic	1C : 16V	J : ±5%	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : ±10%	DL : For change and discharge
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : +80% −20%	U : UL part
CP : Oil	2A : 100V	P : +100% −0%	C : CSA part
CM : Mica	2B : 125V	C : ±0.25pF	W : UL-CSA type
CF : Metallized	2C : 160V	D : ±0.5pF	F : Lead wire forming
CH : Metallized	2D : 200V	= : Others	
	2E : 250V		
	2H : 500V		
	2J : 630V		

*** Capacity (electrolyte only)**

2 2 2 ⇒ 2200µF
- 2: Indicates number of zeros after effective number.
- 2 2: 2-digit effective number.

• Units: µF.

2 R 2 ⇒ 2.2µF
- 2: 1-digit effective number.
- 2 R: 2-digit effective number, decimal point indicated by R.

• Units: µF.

*** Capacity (except electrolyte)**

2 2 2 ⇒ 2200pF=0.0022µF
- 2 (More than 2): Indicates number of zeros after effective number.
- 2 2: 2-digit effective number.

• Units: pF.

2 2 1 ⇒ 220pF
- 1 (0 or 1): Indicates number of zeros after effective number.
- 2 2: 2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

PARTS LIST OF P.W.B. UNIT

MAIN P.W.B. UNIT ASS'Y

Note: The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A./Canada model E2: Europe model

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC101	963 0057 903	IC KIA7815AP	J126781500060
IC102	963 0044 806	IC NJM7915FA	J126791500010
IC104	960 0196 001	IC NJM7805FA	J126780500130
IC105	960 0195 808	IC ICP-N15	J120001500030
IC300	960 0174 308	IC TC9273N-007	J080927300000
IC301	960 0179 701	IC NJM2068DD	J121206800000
Q101,102	960 0196 603	Transistor KTC2874B	J502287400010
Q103-106	960 0196 205	Transistor KSA992Y	J5000992F0050
Q107,108	960 0196 506	Transistor KSC1845F	J5021845F0000
Q115,116	960 0196 506	Transistor KSC1845F	J5021845F0000
Q117-119	963 0022 006	Transistor DTC114YS	J6020114Y0050
Q120	960 0196 302	Transistor KTA1268BL	J5001268B0050
Q121	960 0196 700	Transistor KTC3200BL	J5023200B0050
Q122	960 0189 005	Transistor KSA916Y	J5000916Y0050
Q123	960 0005 105	Transistor KTA1266Y	J5001266Y0050
Q124	960 0005 202	Transistor KTC3198Y	J5023198Y0000
Q125	960 0196 302	Transistor KTA1268BL	J5001268B0050
Q126,127	960 0005 202	Transistor KTC3198Y	J5023198Y0000
Q128	960 0196 302	Transistor KTA1268BL	J5001268B0050
Q129,130	960 0005 202	Transistor KTC3198Y	J5023198Y0000
Q131,132	960 0196 302	Transistor KTA1268BL	J5001268B0050
Q133,134	960 0196 409	Transistor 2SC1740SR	J5021740S0010
Q136	963 0022 006	Transistor DTC114YS	J6020114Y0050
D101-113	963 0020 309	Diode 1SS133	K000013300520
D114-119	963 0058 407	Diode 1N4007	K000400700520
D120,121	963 0020 309	Diode 1SS133	K000013300520
D122-125	963 0058 407	Diode 1N4007	K000400700520
D126-129	963 0020 309	Diode 1SS133	K000013300520
D132-135	963 0020 309	Diode 1SS133	K000013300520
DB101,102	960 0197 107	Diode KBPC604	K047604000020
DZ101,102	963 0046 202	Zener diode MTZJ18B	K06018R044520
DZ103,104	963 0047 405	Zener diode MTZJ7.5B	K06007R544520
DZ105	963 0058 708	Zener diode MTZJ20B	K06020R044520
DZ106	960 0095 500	Zener diode MTZJ5.1B	K06005R144520
DZ107-110	963 0047 502	Zener diode MTZJ3.3B	K06003R344520
RESISTORS GROUP			
R117,118	960 9004 301	Metal film 47ohm 1/4W (NB)	C060047063050
R127-130	244 2052 957	Metal film 5.6kohm 1W (NB)	C060056265070
R135,136	963 9003 068	Metal film 4.7ohm 1/4W (NB)	C0604R7063050
R137-140	244 2043 982	Metal film 0.22ohm 1W (NB)	C060R22065070
R141,142	963 9003 068	Metal film 4.7ohm 1/4W (NB)	C0604R7063050
R143-146	244 2043 982	Metal film 0.22ohm 1W (NB)	C060R22065070
R153-156	244 2043 937	Metal oxide 10ohm 1W (NB)	C041010065060
R162-164	244 2055 996	Metal film 1.2kohm 1W (NB)	C060012265050
R165	244 2043 937	Metal oxide 10ohm 1W (NB)	C041010065060
R166	244 2043 982	Metal film 0.22ohm 1W (NB)	C060R22065050
R173	963 9003 068	Metal film 4.7ohm 1/4W (NB)	C0604R7063050
R190,191	963 0045 203	Winding 0.1ohm 5W	C144R10069110
R195,196	244 2043 982	Metal film 0.22ohm 1W (NB)	C060R22065050
R208	963 9005 105	Carbon film 68ohm 1/4W	C000068063520
R209	963 0043 108	Metal film 2.2Mohm 1/2W	for E3 C060022574000
R343,344	244 2043 937	Metal oxide 10ohm 1W (NB)	C041010065060
VR101,102	960 0091 601	Semi fixed resistor 1kohm	C544102015130
CAPACITORS GROUP			
C101,102		Electrolytic 22uF/50V	D040220087060
C103,104		Electrolytic 10uF/50V	D040100087070
C105,106	963 9005 118	Ceramic 100pF/50V	D004101067060
C107,108	963 9003 165	Ceramic 220pF/500V	D009092212500
C109,110		Electrolytic 47uF/25V	D040470084070
C111,112	963 9005 121	Ceramic 33pF/500V	D000330067050
C115,116	963 9005 134	Ceramic 1200pF/50V	D004122287050
C117,118		Electrolytic 47uF/50V	D040470087060
C119,120	963 9003 084	Ceramic 100pF/500V	D00410106D050
C121,122		Electrolytic 10uF/50V	D040100087070
C123,124	963 9003 084	Ceramic 100pF/500V	D00410106D050
C125,126	963 9004 517	Ceramic 0.022uF/50V	D004223597050
C127-130	963 9003 097	Mylar film 0.1uF/250V	D02010407H080
C131-134	960 9003 409	Mylar film 0.01uF/50V	for E2 D020103167050
C135	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C136		Electrolytic 2.2uF/50V	D0402R2087100
C137	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C138,139		Electrolytic 1uF/50V	D040010087080
C140	963 9005 147	Ceramic 0.1uF/25V	D004104594050
C141		Electrolytic 220uF/6.3V	D040221081230
C142	963 9005 147	Ceramic 0.1uF/25V	D004104594050
C143		Electrolytic 220uF/6.3V	D040221081230
C144,145	963 9005 150	Electrolytic 6800uF/63V	D040681088030
C146-150	963 9003 097	Mylar film 0.1uF/250V	D02010407H080
C151		Electrolytic 1uF/50V	D040010087080
C152	963 9005 163	Electrolytic 1000uF/50V	D040102087230
C153-155	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C156	960 9007 201	Electrolytic 3300uF/35V	D040332085010
C157	963 9003 123	Electrolytic 1000uF/35V	D040102085040
C158,159		Electrolytic 10uF/50V	D040100087070
C161		Electrolytic 10uF/50V	D040100087070
C162		Electrolytic 4.7uF/50V	D0404R7087100
C164	963 9003 136	Electrolytic 1000uF/25V	D040102084060
C167,168		Electrolytic 1uF/50V	D040010087080
⚠ C169	963 9005 176	Ceramic 4700pF/250V (AC)	D008472089010
C170	963 9005 299	Electrolytic 100uF/100V	D04010108C200
C174		Electrolytic 10uF/50V	D040100087070

Ref. No.	Part No.	Part Name	Remarks
C175	963 9005 189	Mylar film 2200pF/63V	for E2 D020222068050
C178	963 9005 189	Mylar film 2200pF/63V	for E2 D020222068050
C300-313	963 9004 520	Ceramic 100pF/50V	for E2 D005101177520
C314		Electrolytic 10uF/50V	D040100087070
C315,316	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C317-321		Electrolytic 10uF/50V	D040100087070

OTHER PARTS GROUP				Q'ty
CN601	960 0129 706	13P connector base	L101352371310	1
CN908	960 0123 304	2P connector base	for E2 L104353280200	1
CP101	960 0197 505	2P connector base	L108202000220	1
CP102	960 0123 304	2P connector base	L104353280200	1
CP103	963 0081 403	4P connector base	L104353280400	1
CP104	960 0123 207	3P connector base	L102526700300	1
CP105	960 0123 304	2P connector base	for E2 L104353280200	1
CP107	960 0123 207	3P connector base	L102526700300	1
CP608	963 0088 008	10P connector base	L101100041010	1
CP609	963 0087 805	11P connector base	L101100041110	1
CP907	963 0048 909	3P connector base	L101220030000	1
⚠F101	960 0188 705	Fuse 8A/125V	for E3 G650802121060	1
⚠F101	960 0142 602	Fuse T2.5A/250V	for E2 G650252251160	1
⚠F102	963 0089 803	Fuse 6.3A/125V	for E3 G650632121150	1
⚠F102	963 0044 709	Fuse T3.15A/250V	for E2 G650312251160	1
F101A,B	960 0005 804	Fuse clip	G645000050010	2
F102A,B	960 0005 804	Fuse clip	G645000050010	2
GND101-103	960 9006 600	GND terminal	3790040876010	3
JACK102	963 0074 009	8P speaker terminal	G61408103610A	1
JACK104	960 0181 508	2P AC outlet	for E3 G435204004010	1
JACK301,302	960 0188 200	4P pin jack	G602040610000	2
JACK303	960 0188 307	6P pin jack	G603060610010	1
L101,102	963 0049 005	Inductor 0.5uH	D330R50000000	2
RLY101	960 0181 702	Relay (G5PA-28)	G680240502020	1
RLY102	963 0071 303	Relay (RSB24S)	G680240202010	1
RLY103	960 0181 702	Relay (G5PA-28)	G680240502020	1
RLY104	960 0181 605	Relay (G5PA-1-8)	G680120502010	1

Ref. No.	Part No.	Part Name	Remarks	Q'ty
⚠T101	960 0185 708	Power trans. (Sub)	for E3 8200280960010	1
⚠T101	960 0185 711	Power trans. (Sub)	for E2 8201280000010	1
TP101,102	960 0161 405	3P connector base	L101530140310	2
★	—	Heat sink	2120043538050	1
★	963 0018 007	Screw 3×8 (B)-Z	B020030081B10	2
★	963 0068 400	Condenser cover	for E2 4310002640010	1
★	963 0060 000	Fuse label (for T101)	for E2 5527200040020	1

FRONT P.W.B. UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC600	960 0195 400	IC PC74HC4094D	J040744094020
IC601	960 0179 604	IC M62446FP	J084624460010
IC602	960 0179 701	IC NJM2068DD	J121206800000
IC900	963 0089 609	IC CXP82840-321Q	J020828403210
IC901	963 0081 801	IC TDA7330BD	for E2 J020733000010
Q600,601	960 0196 603	Transistor KTC2874B	for E3 J502287400010
Q603,604	960 0196 603	Transistor KTC2874B	for E3 J502287400010
Q900	960 0196 409	Transistor 2SC1740SR	J5021740S0010
Q901	963 0075 503	Transistor DTC144ES	J6020144E0010
Q902-904	963 0081 306	Transistor DTC114ES	J6020114E0010
Q907	963 0081 209	Transistor DTA144ES	J6000144E0010
D600	963 0020 309	Diode 1SS133	K000013300520
D601	963 0058 407	Diode 1N4007	K000400700520
D602	963 0020 309	Diode 1SS133	K000013300520
D900-902	963 0020 309	Diode 1SS133	K000013300520
D903	963 0058 407	Diode 1N4007	K000400700520
D904-908	963 0020 309	Diode 1SS133	K000013300520
DZ600,601	960 0222 603	Zener diode MTZJ7.5A	K06007R544530
DZ900,901	960 0095 607	Zener diode MTZJ5.6B	K06005R644520
DZ902	963 0047 502	Zener diode MTZJ3.3B	K06003R344520
DZ903	960 0095 801	Zener diode MTZJ6.8B	K06006R844520
LED900-902	960 0197 204	LED HL50RDRF4T	K500052015010
FL900	960 0180 509	FLT (16-ST-42GNK)	K530164200010
RESISTORS GROUP			
R615	244 2052 960	Metal film 220ohm 1W (NB)	C060022165050
R623	244 2052 960	Metal film 220ohm 1W (NB)	C060022165050
R912-914	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R926-928	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R930-932	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R936-949	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R951	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R953-955	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R958	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R960	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R962-970	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R977-982	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R985-987	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160

Ref. No.	Part No.	Part Name	Remarks
R990,991	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R993	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R995	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R1008	963 9004 245	Carbon chip 2.2Mohm 1/16W	for E2 C20002256M160
CAPACITORS GROUP			
C600,601	963 9004 520	Ceramic 100pF/50V	D005101177520
C602		Electrolytic 10uF/50V	D040100087070
C603	963 9004 520	Ceramic 100pF/50V	D005101177520
C604	960 9003 108	Ceramic 0.022uF/25V	D005223594520
C605		Electrolytic 47uF/10V	D040470082050
C606		Electrolytic 4.7uF/50V	D0404R7087100
C607	963 9004 520	Ceramic 100pF/50V	D005101177520
C608		Electrolytic 4.7uF/50V	D0404R7087100
C609	963 9004 520	Ceramic 100pF/50V	D005101177520
C610,611		Electrolytic 4.7uF/50V	D0404R7087100
C612-615	963 9004 520	Ceramic 100pF/50V	D005101177520
C616		Electrolytic 0.33uF/50V	D040R33087100
C617	960 9003 603	Mylar film 0.015uF/50V	D020153167050
C618	963 9005 079	Mylar film 8200pF/100V	D02082206C060
C619		Electrolytic 47uF/10V	D040470082050
C620,621	963 9004 520	Ceramic 100pF/50V	D005101177520
C622		Electrolytic 1uF/50V	D040010087080
C623	963 9004 520	Ceramic 100pF/50V	D005101177520
C624		Electrolytic 0.33uF/50V	D040R33087100
C625	960 9003 603	Mylar film 0.015uF/50V	D020153167050
C626,627		Electrolytic 3.3uF/50V	D0403R308705C
C628	963 9005 079	Mylar film 8200pF/100V	D02082206C060
C629		Electrolytic 10uF/50V	for E3 D040100087070
C630		Electrolytic 47uF/10V	D040470082050
C631		Electrolytic 10uF/50V	for E3 D040100087070
C632,633		Electrolytic 10uF/50V	D040100087070
C634,635	963 9005 082	Ceramic 39pF/50V	D001390067520
C636	960 9003 108	Ceramic 0.022uF/25V	for E3 D005223594520
C636	963 9004 520	Ceramic 100pF/50V	for E2 D005101177520
C641-644		Electrolytic 10uF/50V	D040100087070
C645,646		Electrolytic 10uF/50V	for E3 D040100087070
C900	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C901		Electrolytic 1uF/50V	D040010087080
C902		Electrolytic 47uF/25V	D040470084070
C903	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C904-909	963 9004 575	Ceramic chip 100pF/50V	D010101167160
C910	963 9004 708	Ceramic chip 0.1uF/50V	D011104577160
C911	963 0061 504	Back up cap. 8200uF/5.5V	D040822080010

Ref. No.	Part No.	Part Name	Remarks
C912	963 9004 708	Ceramic chip 0.1uF/50V	D011104577160
C913		Electrolytic 4.7uF/50V	D0404R7087100
C914,915	963 9004 698	Ceramic chip 0.01uF/50V	D011103777160
C916	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C918	963 9004 504	Ceramic 0.01uF/50V	D004103097060
C919		Electrolytic 47uF/50V	D040470087060
C920	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C921,922	963 9004 614	Ceramic chip 27pF/50V	for E2
			D01027016716C
C923	963 9004 504	Ceramic 0.01uF/50V	for E2
			D004103097060
C924		Electrolytic 10uF/50V	for E2
			D040100087050
C925	963 9005 095	Ceramic 270pF/50V	for E2
			D000271067050
C926		Electrolytic 47uF/25V	for E2
			D040470084070
C927	963 9004 698	Ceramic chip 0.01uF/50V	for E2
			D011103777160
C932		Electrolytic 100uF/50V	D040101087060
C935	960 0186 503	Electric double layer 0.047F/5.5V	for E2
			D090473904010

OTHER PARTS GROUP				Q'ty
CN901	963 0071 206	23P FFC connector base	L131520452345	1
CP401	963 0088 008	10P connector base	L101100041010	1
CP601	960 0128 600	13P connector base	L101353361310	1
CP602	963 0085 807	7P connector base	L101100040710	1
CP605	963 0085 807	7P connector base	L101100040710	1
CP606	963 0088 008	10P connector base	L101100041010	1
CP607	963 0087 805	11P connector base	L101100041110	1
CP900	963 0089 706	3P connector cord (L=100)	L000101030070	1
CP901	963 0071 109	23P FFC connector base (L)	L131520442345	1
CP902	963 0049 102	3P connector base (L)	L102526803010	1
L900	960 0128 008	Inductor 100uH	D330101001020	1
REM900	960 0181 100	Remocon sensor NJL64H380A	E940643800000	1
SW900-923	960 0194 207	Tact switch	G180000270010	24
SW924	960 0181 207	Rotary encoder (EC16B2420431)	G121162420400	1
XTAL900	960 0112 001	Ceramic resonator	CST10.0MGW-TF01	1
			E830100000050	
XTAL901	960 0091 818	Crystal 4.332MHz	for E2	1
			E8004R3320051	
★	960 0184 408	FLT holder	4320200026000	1

TUNER P.W.B. UNIT ASS'Y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC401	963 0043 700	IC LC72131	J120721310030
IC402	963 0043 904	IC LA1266	J124126600010
IC403	963 0044 000	IC LA3401	J124340100010
IC500	960 0181 101	IC LA7952	for E3
			J171795200000
IC501	960 0174 104	IC CXA1511M	for E3
			J030151100010
IC502	263 0516 001	IC NJM7812FA	for E3
			J126781200010
Q401	963 0058 300	Transistor KTC3880S	J5223880O0210
Q402	963 0079 305	Transistor DTA114YK	J5200114Y0210
Q403,404	963 0058 203	Transistor DTA114EK	J5200114E0210
Q405,406	960 0196 603	Transistor KTC2874B	J502287400010
Q407	963 0024 208	Transistor DTC114YK	J5220114Y0210
Q408	963 0058 203	Transistor DTA114EK	J5200114E0210
Q409	963 0058 300	Transistor KTC3880S	for E2
			J5223880O0210
Q501	960 0096 813	Transistor KTC3199Y	for E3
			J5023199Y0010
Q502	963 0022 006	Transistor DTC114YS	for E3
			J6020114Y0050
Q503	960 0096 813	Transistor KTC3199Y	for E3
			J5023199Y0010
Q504	963 0022 006	Transistor DTC114YS	for E3
			J6020114Y0050
Q512	963 0081 209	Transistor DTA144ES	for E3
			J6000144E0010
Q550	963 0075 309	Transistor DTA114ES	J6000114E0010
D403	960 0197 000	Diode KDS160	K005016000010
D404	963 0020 309	Diode 1SS133	K000013300520
D405,406	960 0197 000	Diode KDS160	K005016000010
D500	963 0020 309	Diode 1SS133	for E3
			K000013300520
D550	963 0058 407	Diode 1N4007	K000400700520
D551	963 0020 309	Diode 1SS133	K000013300520
D552	963 0058 407	Diode 1N4007	K000400700520
DZ401	960 0095 500	Zener diode MTZJ5.1B	K06005R144520
DZ501	960 0095 704	Zener diode MTZJ6.2B	for E3
			K06006R244520
RESISTORS GROUP			
R401	963 9004 821	Carbon chip 10ohm 1/16W	C20001006M160
R403	963 9004 339	Carbon chip 470ohm 1/16W	C20004716M160
R404	963 9004 083	Carbon chip 100kohm 1/16W	C20001046M160

Ref. No.	Part No.	Part Name	Remarks
R405	960 9003 807	Metal film 100ohm 1/4W (NB)	C060010163050
R406	963 9004 342	Carbon chip 4.7kohm 1/16W	C20004726M160
R407	963 9004 339	Carbon chip 470ohm 1/16W	for E3
			C20004716M160
R407	963 9005 008	Carbon chip 620ohm 1/16W	for E2
			C20006216M160
R408	963 9004 119	Carbon chip 1.2kohm 1/16W	for E3
			C20001226M160
R408	963 9004 436	Carbon chip 680ohm 1/16W	for E2
			C20006816M160
R409	963 9004 339	Carbon chip 470ohm 1/16W	C20004716M160
R411	963 9005 011	Carbon chip 68kohm 1/16W	C20006836M160
R412	963 9004 834	Carbon chip 5.6kohm 1/16W	C20005626M160
R413	960 9006 503	Metal film 220ohm 1/4W (NB)	C060022163050
R414	963 9004 216	Carbon chip 2.2kohm 1/16W	C20002226M160
R415	963 9003 398	Carbon chip 1kohm 1/16W	C20001026M160
R416	963 9005 024	Metal film 680ohm 1/4W (NB)	C060068163050
R417	963 9003 398	Carbon chip 1kohm 1/16W	C20001026M160
R418	963 9004 274	Carbon chip 33kohm 1/16W	C20003336M160
R420	963 9004 847	Carbon chip 3.3kohm 1/16W	C20003326M160
R426,427	963 9004 070	Carbon chip 10kohm 1/16W	C20001036M160
R428	963 9004 847	Carbon chip 3.3kohm 1/16W	for E3
			C20003326M160
R428	963 9004 070	Carbon chip 10kohm 1/16W	for E2
			C20001036M160
R429	963 9004 850	Carbon chip 82ohm 1/16W	C20008206M160
R430	963 9003 807	Metal film 100ohm 1/4W (NB)	C060010163050
R431	963 9004 371	Carbon chip 5.1kohm 1/16W	C20005126M160
R432	963 9004 070	Carbon chip 10kohm 1/16W	C20001036M160
R434	963 9003 807	Metal film 100ohm 1/4W (NB)	C060010163050
R435	963 9004 847	Carbon chip 3.3kohm 1/16W	C20003326M160
R437	963 9004 083	Carbon chip 100kohm 1/16W	C20001046M160
R438,439	963 9004 083	Carbon chip 100kohm 1/16W	for E3
			C20001046M160
R438,439	963 9004 164	Carbon chip 150kohm 1/16W	for E2
			C20001546M160
R440,441	963 9004 863	Carbon chip 120kohm 1/16W	for E3
			C20001246M160
R440,441	963 9004 232	Carbon chip 220kohm 1/16W	for E2
			C20002246M160
R442,443	963 9004 847	Carbon chip 3.3kohm 1/16W	for E3
			C20003326M160
R442,443	963 9004 216	Carbon chip 2.2kohm 1/16W	for E2
			C20002226M160
R444,445	963 9004 481	Carbon chip 8.2kohm 1/16W	for E3
			C20008226M160
R444,445	963 9004 847	Carbon chip 3.3kohm 1/16W	for E2
			C20003326M160
R448	963 9004 216	Carbon chip 2.2kohm 1/16W	C20002226M160
R449	963 9005 037	Carbon chip 3.9kohm 1/16W	for E2
			C20003926M160

Ref. No.	Part No.	Part Name	Remarks
R450	963 9003 398	Carbon chip 1kohm 1/16W	for E2
			C20001026M160
R455	963 9004 876	Carbon chip 330ohm 1/16W	C20003316M160
R456	963 9003 385	Carbon chip 100ohm 1/16W	C20001016M160
R458,459	963 9004 342	Carbon chip 4.7kohm 1/16W	C20004726M160
R462,463	963 9004 083	Carbon chip 100kohm 1/16W	for E3
			C20001046M160
R467,468	963 9004 203	Carbon chip 220ohm 1/16W	for E3
			C20002216M160
R470	963 9003 398	Carbon chip 1kohm 1/16W	C20001026M160
R471VT	963 9004 203	Carbon chip 220ohm 1/16W	C20002216M160
R472	963 9003 385	Carbon chip 100ohm 1/16W	for E2
			C20001016M160
R473	963 9003 372	Carbon chip 0ohm 1/16W	for E3
			C20000006M160
R473	963 9005 040	Carbon chip 2.4kohm 1/16W	for E2
			C20002426M160
R474	963 9004 889	Carbon chip 180ohm 1/16W	for E2
			C20001816M160
R475	963 9004 122	Carbon chip 12kohm 1/16W	C20001236M160
R476	963 9004 397	Carbon chip 56kohm 1/16W	C20005636M160
R478	963 9004 070	Carbon chip 10kohm 1/16W	C20001036M160
R479	963 9004 083	Carbon chip 100kohm 1/16W	C20001046M160
R491	963 9004 229	Carbon chip 22kohm 1/16W	C20002236M160
R1024,1025	963 0048 006	Metal film 330ohm 2W	C060033166520
VR401	960 0096 606	Semi fixed resistor 20kohm	C541203115000
VR402	963 0056 205	Semi fixed resistor 50kohm	for E3
			C541503115000
VR402	960 0096 402	Semi fixed resistor 100kohm	for E2
			C541104115000
VR403	963 0052 005	Semi fixed resistor 200kohm	C541204115000

CAPACITORS GROUP

C401,402	963 9004 685	Ceramic chip 1000pF/50V	D011102777160
C403	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C404	963 9004 892	Ceramic 2pF/50V	D000020007050
C405	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C406	963 9004 902	Ceramic chip 18pF/50V	D010180167160
C408	960 9004 709	Ceramic 6pF/50V	D000060007050
C409	963 9004 520	Ceramic 100pF/50V	D005101177520
C410	963 9004 915	Ceramic 470pF/50V	D005471277520
C411	963 9004 685	Ceramic chip 1000pF/50V	D011102777160
C412	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C413	963 9004 575	Ceramic chip 100pF/50V	D010101167160
C414		Electrolytic 2.2uF/50V	D0402R2087100
C415		Electrolytic 47uF/25V	D040470084070
C416		Electrolytic 10uF/50V	D040100087050
C417		Electrolytic 100uF/16V	D040101083100
C418	963 9004 698	Ceramic chip 0.01uF/50V	D011103777160

Ref. No.	Part No.	Part Name	Remarks
C419		Electrolytic 10uF/50V	D040100087050
C420	963 9004 591	Ceramic chip 22pF/50V	D010220167160
C421	963 9004 928	Ceramic chip 24pF/50V	D010240167200
C422	963 9004 656	Ceramic chip 470pF/50V	D010471167160
C423,424	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C425		Electrolytic 4.7uF/50V	D0404R7087100
C426		Electrolytic 3.3uF/50V	D0403R3087100
C427		Electrolytic 4.7uF/50V	D0404R7087100
C428	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C430	963 0021 900	Mylar film 0.047uF/100V	D02047306C060
C431	963 9004 627	Ceramic chip 33pF/50V	D010330167160
C432		Electrolytic 47uF/25V	D040470084070
C433	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C434		Electrolytic 1uF/50V	for E3
			D040010087080
C434		Electrolytic 0.33uF/50V	for E2
			D040R33087100
C435,436	963 9004 737	Ceramic chip 0.022uF/25V	D011223777160
C437		Electrolytic 47uF/25V	D040470084070
C438		Electrolytic 1uF/50V	D040010087080
C439		Electrolytic 0.22uF/50V	D040R22087100
C440,441		Electrolytic 1uF/50V	D040010087080
C442		Electrolytic 2.2uF/50V	D0402R2087100
C443		Electrolytic 10uF/50V	D040100087050
C444		Electrolytic 4.7uF/50V	D0404R7087100
C445		Electrolytic 10uF/50V	D040100087050
C446,447	963 9005 053	Ceramic 270pF/50V	for E3
			D004271277050
C446,447	963 9005 066	Ceramic 330pF/50V	for E2
			D004331277050
C448,449	963 9004 960	Ceramic 470pF/50V	for E3
			D004471067060
C450,451		Electrolytic 10uF/50V	D040100087050
C453	963 9004 614	Ceramic chip 27pF/50V	D010270167160
C454,455	963 9004 575	Ceramic chip 100pF/50V	for E3
			D010101167160
C456	963 9004 672	Ceramic chip 680pF/50V	D010681167160
C459		Electrolytic 1uF/50V	for E3
			D040010087080
C461	963 9004 591	Ceramic chip 22pF/50V	D010220167160
C462	963 9004 656	Ceramic chip 470pF/50V	for E2
			D010471167160
C463	963 9004 782	Mylar film 0.056uF/100V	D02056306C060
C464	963 9004 973	Ceramic 3pF/50V	D000030007050
C471VT		Electrolytic 1uF/50V	D040010087080
C472VT	963 9004 753	Ceramic chip 0.047uF/50V	D011473597160
C500-502		Electrolytic 47uF/25V	for E3
			D040470084070
C503,504		Electrolytic 470uF/10V	for E3
			D040471081230

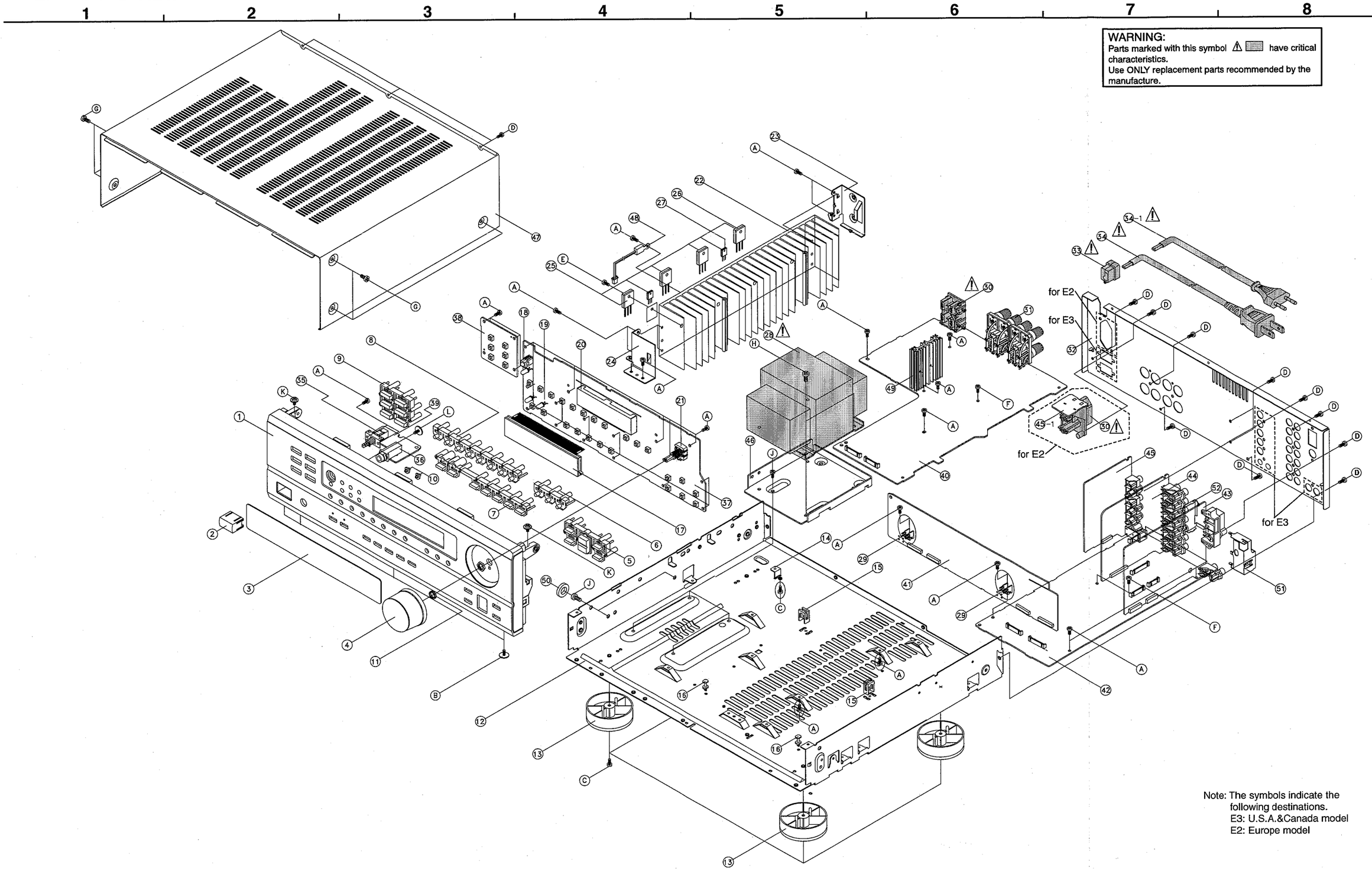
Ref. No.	Part No.	Part Name	Remarks
C506,507	963 9004 562	Ceramic 0.047uF/50V	for E3
			D005473597520
C508		Electrolytic 100uF/10V	for E3
			D040101083100
C509	963 9004 504	Ceramic 0.01uF/50V	for E3
			D004103097060
C510	963 9004 520	Ceramic 100pF/50V	for E3
			D005101177520
C511	960 9008 653	Mylar film 0.012uF/100V	for E3
			D02012306C060
C512		Electrolytic 1uF/50V	for E3
			D040010087050
C513	960 9008 653	Mylar film 0.012uF/100V	for E3
			D02012306C060
C514		Electrolytic 47uF/25V	for E3
			D040470084070
C515		Electrolytic 1uF/50V	for E3
			D040010087050
C516		Electrolytic 10uF/50V	for E3
			D040100085050
C550		Electrolytic 0.1uF/50V	D040R10087070
C551		Electrolytic 100uF/25V	D040101084060
C928,929	963 9004 533	Ceramic 1000pF/50V	D005102177530
C930	960 9003 108	Ceramic 0.022uF/25V	D005223594520
C931		Electrolytic 1uF/50V	D040010087080

OTHER PARTS GROUP				Q'ty
CF401,402	960 0187 104	Ceramic filter SFE10.7MA8	for E3	2
			E430107000140	
CF401,402	960 0177 509	Ceramic filter SFE10.7MS3	for E2	2
			E430107000150	
CF403	960 0187 609	Ceramic resonator BFU450C	E830450000070	1
CN401	963 0085 409	10P connector base	L101100031010	1
CN602	963 0086 505	7P connector base	L101100030710	1
CN605	963 0086 505	7P connector base	for E3	1
			L101100030710	
CN606	963 0085 409	10P connector base	L101100031010	1
CN607	963 0086 709	11P connector base	L101100031110	1
CN608	963 0085 409	10P connector base	L101100031010	1
CN609	963 0086 709	11P connector base	L101100031110	1
CN907	963 0089 308	3P connector cord (L=400)	L000401030020	1
CP900	963 0049 908	3P connector base	L101220030010	1
CP903	963 0086 000	2P connector cord (L=80)	L000800020060	1
CP905	963 0089 405	2P connector cord (L=120)	for E2	1
			L000121020050	
CP906	963 0048 909	3P connector base	for E3	1
			L101220030000	
CP906	963 0089 502	2P connector cord (L=350)	for E2	1
			L000351020070	

Ref. No.	Part No.	Part Name	Remarks	Q'ty
FE401	960 0187 706	Tuner pack	E900401010020	1
G401	—	1P Wire (L=80)	8410800010010	1
G900	—	1P Wire (L=80)	8410800010010	1
J401,402	963 9003 369	Carbon chip 0ohm 1/8W	C200000061300	2
J403,404	963 9003 369	Carbon chip 0ohm 1/8W	for E3 C200000061300	2
J405,406	963 9003 369	Carbon chip 0ohm 1/8W	for E2 C200000061300	2
J407	963 9003 369	Carbon chip 0ohm 1/8W	C200000061300	1
J409	963 9003 369	Carbon chip 0ohm 1/8W	C200000061300	1
JACK401	960 0188 006	2P pin jack	for E3 G601020170000	1
JACK402	963 0052 403	3P antenna terminal	G593021068010	1
JACK501	963 0071 002	Mini jack	for E3 G401065020000	1
JACK502	960 0188 404	3P pin jack	for E3 G606030164020	1
JACK503	960 0194 605	2P pin jack	for E3 G601020163010	1
JACK900	960 0187 502	Headphone jack (D6.5)	G402038400031	1
L401,402	963 0052 102	Inductor 1uH	D3301R0001020	2
L403	963 0056 409	MW IFT (RBW07VB-K5025)	D950500500010	1
⚠ OUTLE909	960 0143 203	AC outlet	for E2 G435040110000	1
SW925	963 0045 708	Tact switch	G180000270010	1
SW927	963 0045 708	Tact switch	G180000270010	1
SW929	960 0176 209	Push switch	for E3 G000122000010	1
SW929	963 0056 603	Push switch	for E2 G000040890000	1
SW930	963 0045 708	Tact switch	G180000270010	1
SW932	963 0045 708	Tact switch	G180000270010	1
SW934	963 0045 708	Tact switch	G180000270010	1
SW936	963 0045 708	Tact switch	G180000270010	1
T401	960 0186 600	MW IFT (PCFMAF-270)	D950500200000	1
T402	960 0007 349	FM DET trans.	D951561100000	1
T403	960 0007 352	FM DET trans.	D951561200000	1
T404,405	960 0071 207	MPX filter	for E2 E401500100000	2
T406	960 0037 607	Antibirdie filter	for E2 E403126832410	1
X401	960 0187 405	Crystal 7.2MHz	E8007R2000071	1

Ref. No.	Part No.	Part Name	Remarks	Q'ty
X402	963 0043 302	Ceramic resonator	CSB456F11 E830456000050	1
★	963 0054 003	Shield cover	3070210056000	1
★	963 0088 406	Earth plate C	4470210206000	1
★	960 0184 000	Screw bracket	4010210196000	2

EXPLODED VIEW



PARTS LIST OF EXPLODED VIEW

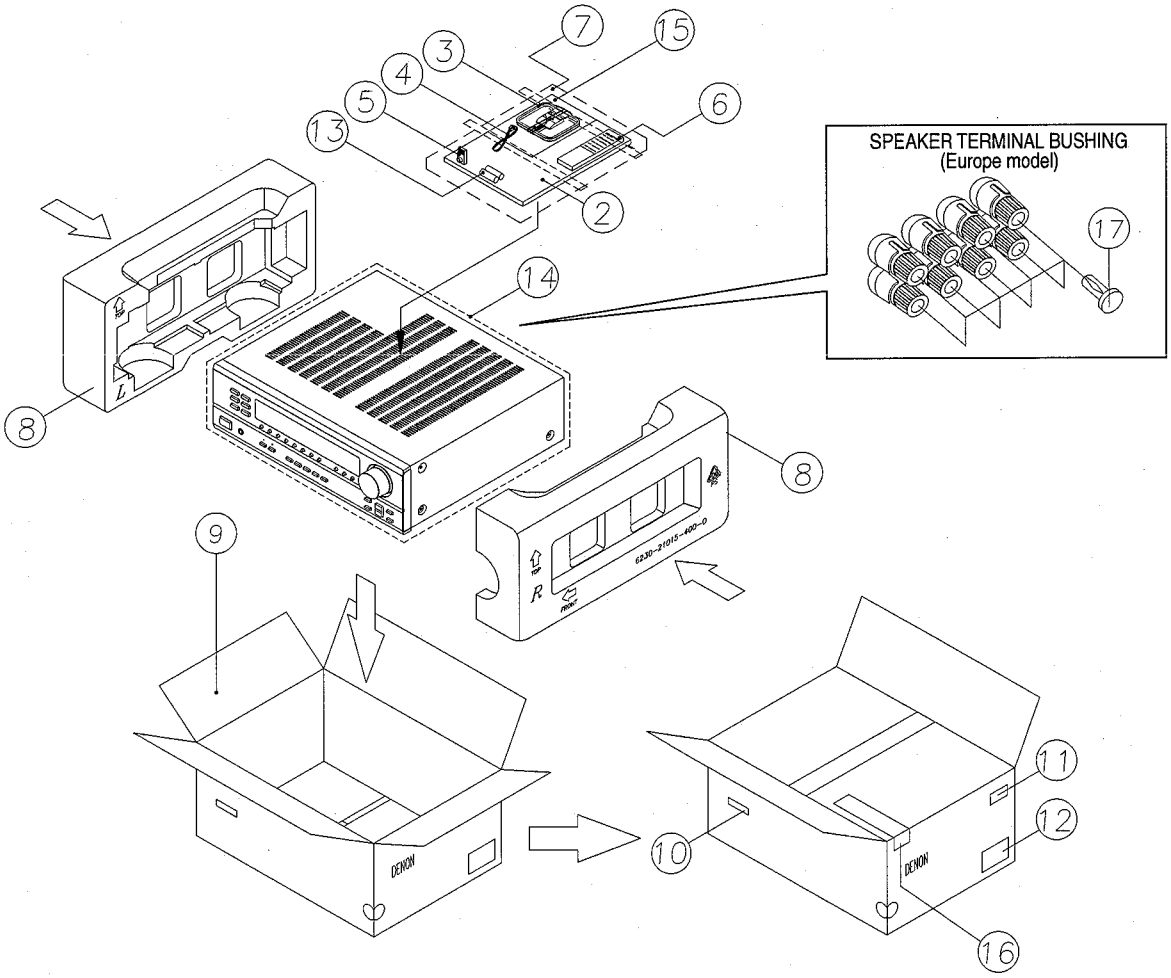
Note: The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A./Canada model E2: Europe model

Ref. No.	Part No.	Part Name	Remarks	Q'ty
——	963 0080 802	Main P.W.B. unit Ass'y	for E3	1
			7025HK0011010	
——	963 0080 815	Main P.W.B. unit Ass'y	for E2	1
			7025HK0011020	
40		Main P.W.B. unit		
44		Input P.W.B. unit		
——	963 0080 909	Front P.W.B. unit Ass'y	for E3	1
			7025HK0011011	
——	963 0080 912	Front P.W.B. unit Ass'y	for E2	1
			7025HK0011021	
37		Front P.W.B. unit		
42		Volume P.W.B. unit		
——	963 0081 005	Tuner P.W.B. unit Ass'y	for E3	1
			7025HK0011012	
——	963 0081 018	Tuner P.W.B. unit Ass'y	for E2	1
			7025HK0011022	
38		Switch P.W.B. unit		
39		Power SW/HP P.W.B. unit		
41		Connector P.W.B. unit		
43		Tuner P.W.B. unit		
45		Video P.W.B. unit	for E3	
45-1		Outlet P.W.B. unit	for E2	
1	963 0076 308	Front panel	for E3	1
			3067210261040Z	
1	963 0076 311	Front panel	for E2	1
			3067210261050Z	
2	960 0185 009	Power button	5090210201000Z	1
3	963 0076 612	Display window	5077210262040	1
4	963 0054 906	Volume knob	5087210191010Z	1
5	963 0053 703	5key button	5097210471000Z	1
6	963 0053 606	3key button	5090210511000Z	1
7	963 0053 415	7(A)key button	5090210491001Z	1
8	963 0053 509	8key button	5090210501000Z	1
9	963 0053 305	6key button	5090210481000Z	1
10	960 0191 417	LED lens	3710210043001	2
11	963 0051 006	Knob spring	3720210116000	1
12	960 0198 229	Main chassis	3200210146301	1
13	960 0183 904	Foot Ass'y	400802006101C	4
14	960 0184 107	Support bracket	4010210206000	1
15	960 0003 301	P.W.B. support	4070001601010	2
16	963 0051 103	Card spacer	4300210062000	2
17	960 0180 509	FLT (16-ST-42GNK)	FL900	1
			K530164200010	
18	960 0181 100	Remocon sensor NJL64H380A	REM900	1
			E940643800000	
19	960 0197 204	LED HL50RDRF4T	LED900-902	3
			K500052015010	
20	960 0184 408	FLT holder	4320200026000	1
21	960 0181 207	Rotary encoder (EC16B2420431)	SW924	1
			G121162420400	

Ref. No.	Part No.	Part Name	Remarks	Q'ty
22	—	Heat sink (main)	2120210298100Z	1
23	960 0184 204	Heat sink bracket B	4010210386000	1
24	960 0184 301	Heat sink bracket F	4010210396000	1
25	960 0090 107	Transistor 2SB1559Y	Q113,114	2
			J5011559Y1170	
26	960 0090 000	Transistor 2SD2389Y	Q111,112	2
			J5032389Y1170	
27	963 0058 106	Transistor 2SD947F	Q109,110	2
			J503947F00000	
⚠ 28	963 0088 901	Power trans.	for E3	1
			8200858630100	
⚠ 28	963 0088 914	Power trans.	for E2	1
			8200858630110	
29	960 0184 000	Screw bracket	4010210196000	2
⚠ 30	960 0181 508	2P AC outlet	JACK104, for E3	1
			G435204004010	
⚠ 30	960 0143 203	AC outlet	OUTLE909, for E2	1
			G435040110000	
31	963 0089 201	8P speaker terminal	JACK102	1
			G61408103610A	
32	963 0076 502	Back panel	for E3	1
			3207210766600	
32	963 0076 515	Back panel	for E2	1
			3207210766700	
⚠ 33	960 0192 403	Cord bush	4380210002000	1
⚠ 34	960 0166 400	AC cord	for E3	1
			L068020030010	
⚠ 34-1	960 0202 500	AC cord	for E2	1
			L068040011010	
35	960 0176 209	Push switch	SW929, for E3	1
			G000122000010	
35	963 0056 603	Push switch	SW929, for E2	1
			G000040890000	
36	960 0187 502	Headphone jack (D6.5)	JACK900	1
			G402038400031	
46	963 0072 205	Trans bracket	4010210466001	1
47	963 0053 017	Top cover	3000210096001	1
48	960 0187 900	Posistor P43T7D330BW16	F320161001020	1
49	—	Heat sink	2120043538050	1
50	963 0072 302	Rubber cushion	4050210165000	2
51	963 0054 003	Shield cover	3070210056000	1
52	963 0088 406	Earth plate C	4470210206000	1
53	963 0081 607	Side bracket	for E2	1
			4010210686000	
54	963 0044 602	P.W.B. support	for E2	1
			4070210192000	
★ 55	963 0089 104	Rubber sheet	1210210235000	3
★ 56	960 0155 301	Wire clamper	for E3	4
			4330040343010	
★ 56	960 0155 301	Wire clamper	for E2	5
			4330040343010	
★ 57	963 0054 207	Fuse caution label	for E3	1
			5527042410020	

Ref. No.	Part No.	Part Name	Remarks	Q'ty
★ 58	963 0089 007	FFC cable	CP901 L301171230010	1
SCREWS				
A	963 0018 007	Screw 3×8 (B)-Z	B020030081B10	44
B	960 9008 527	Screw 3×8 (B) W-B	1500001456020	4
C	963 0048 200	Screw 3×10 (B)-Z	B020030101B10	5
D	960 0108 714	Screw 3×10 (B)-B	for E3 B020030103B11	24
D	960 0108 714	Screw 3×10 (B)-B	for E2 B020030103B11	19
E	963 9004 009	Screw 3×14 (P) SW W-Z	B018230141H10	6
F	963 0018 104	Screw 3×17 (B)-Z	B020030171B10	2
G	963 0048 307	Screw 4×8 (B)-B	1500040083B10	6
H	963 9008 417	Screw 4×8 (P) SW W-Z	B028940081B10	4
J	963 9004 025	Screw 4×6 (S)-Z	B020740061B10	6
K	963 9004 038	Screw 3×8 (B) W-Z	1500001206010	2
L	960 9008 420	Screw 3×8 (B) W-Z	1500001456010	1

PACKING VIEW



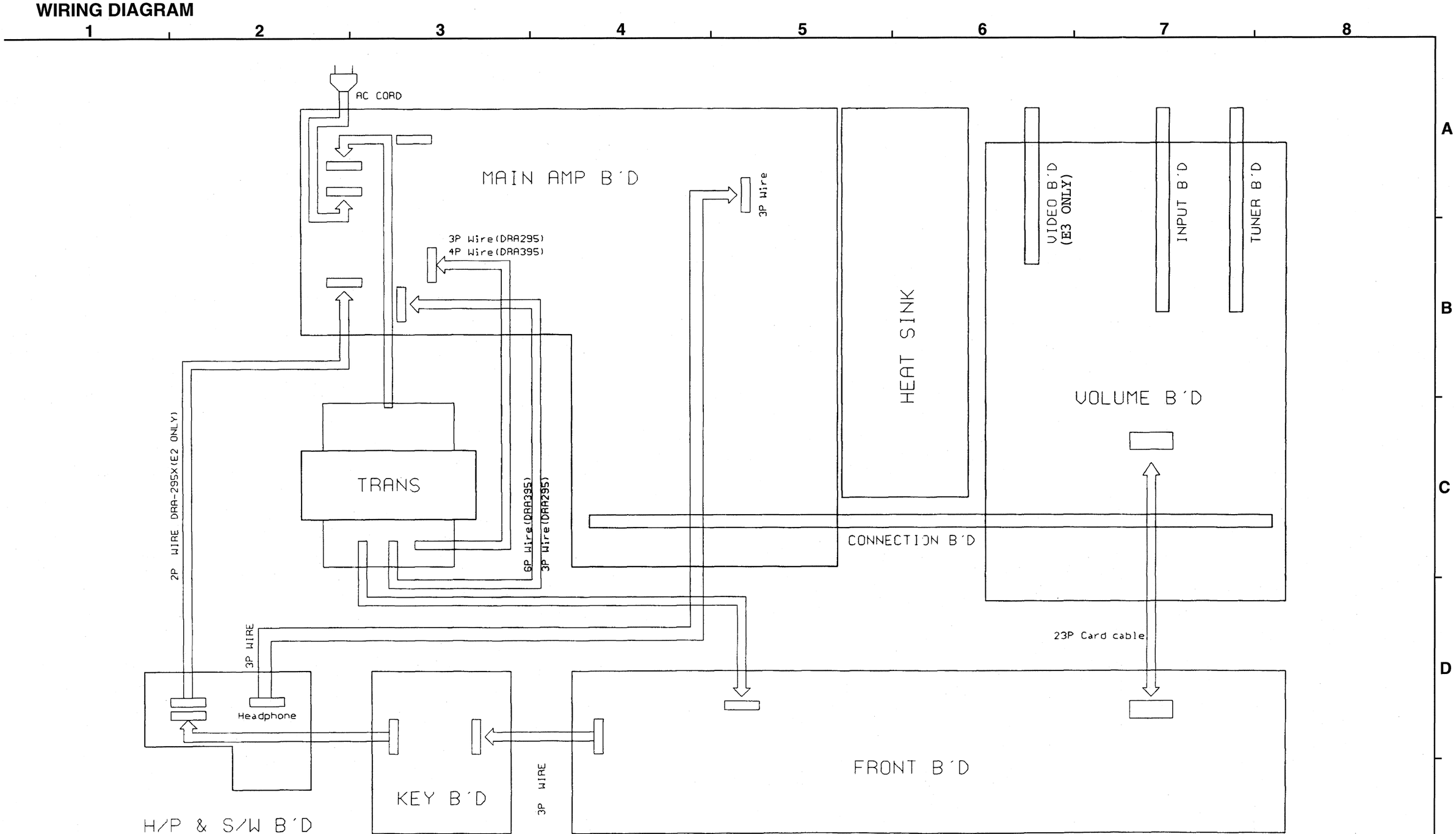
PARTS LIST OF PACKING & ACCESSORIES

Note: The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A./Canada model E2: Europe model

Ref. No.	Part No.	Part Name	Remarks	Q'ty
2	963 0080 608	Instruction manual	for E3	1
			5707210170250	
2	963 0080 611	Instruction manual	for E2	1
			5707210170260	
3	963 0052 306	AM loop antenna	E605010090000	1
4	963 0081 102	FM antenna wire	E605010010000	1
5	963 0052 704	FM antenna adapter	L109000180010	1
6	963 0088 707	Remote control unit RC-895	for E3	1
			8300895000010	
6	963 0088 804	Remote control unit RC-907	for E2	1
			8300907000010	
7	963 0045 106	Poly bag	6330000240000	1
8	963 0193 101	Cushion (L/R)	6230210154001	1
9	963 0080 705	Carton case	for E3	1
			6007210310040	
9	963 0080 718	Carton case	for E2	1
			6007210310070	

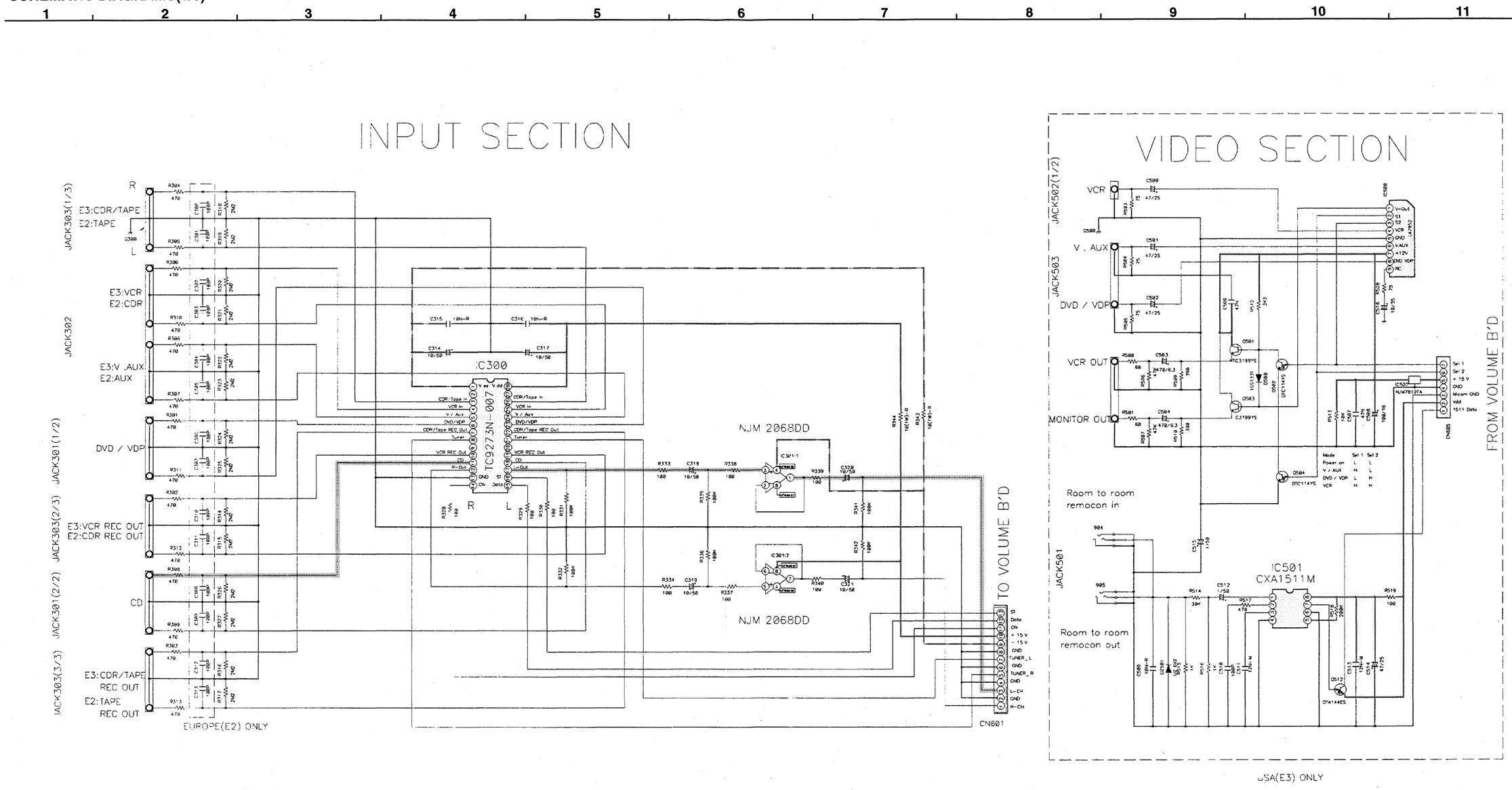
Ref. No.	Part No.	Part Name	Remarks	Q'ty
10	—	RDS label	for E2	2
			5507051670010	
11	—	UPC label	for E3	1
			5507002330100	
11	—	POS label	for E2	1
			5507002340090	
12	—	Control label	5500014920010	2
13	—	Battery (R6P/AA)	G670001R50010	2
14	960 0185 601	Set poly bag	6330210019000	1
15	—	S.S. list (EX)	5777001620012	1
16	—	DEL warranty home	for E3	1
			5777001610020	
17	960 0093 104	Speaker terminal bushing	for E2	8
			2410040353010	

WIRING DIAGRAM



DRA-295 WIRING DIAGRAM

SCHEMATIC DIAGRAMS(1/5)



NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacture.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

——— + B LINE
– – – – – B LINE
▒▒▒▒▒ SIGNAL LINE

SCHEMATIC DIAGRAMS(1/5)
INPUT UNIT
VIDEO UNIT

SCHEMATIC DIAGRAMS(1/5)

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G H

A

INPUT SECTION

JACK303(1/3) JACK302 JACK301(1/2) JACK303(2/3) JACK301(2/2) JACK303(3/3)

E3:CDR/TAPE
E2:TAPE
E3:VCR
E2:CDR
E3:V .AUX
E2:AUX
DVD / VDP
E3:VCR REC OUT
E2:CDR REC OUT
CD
E3:CDR/TAPE REC OUT
E2:TAPE REC OUT

EUROPE(E2) ONLY

IC300 TC9273N-007

NJM 2068DD

IC301:1 IC301:2

TO VOLUME B'D

CN601

B

VIDEO SECTION

JACK502(1/2) JACK503 JACK501

VCR
V . AUX
DVD / VDP
VCR OUT
MONITOR OUT

IC501 CXA1511M

IC507 NJM7812FA

Room to room remocon in
Room to room remocon out

FROM VOLUME B'D

USA(E3) ONLY

C

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WARNING:
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D

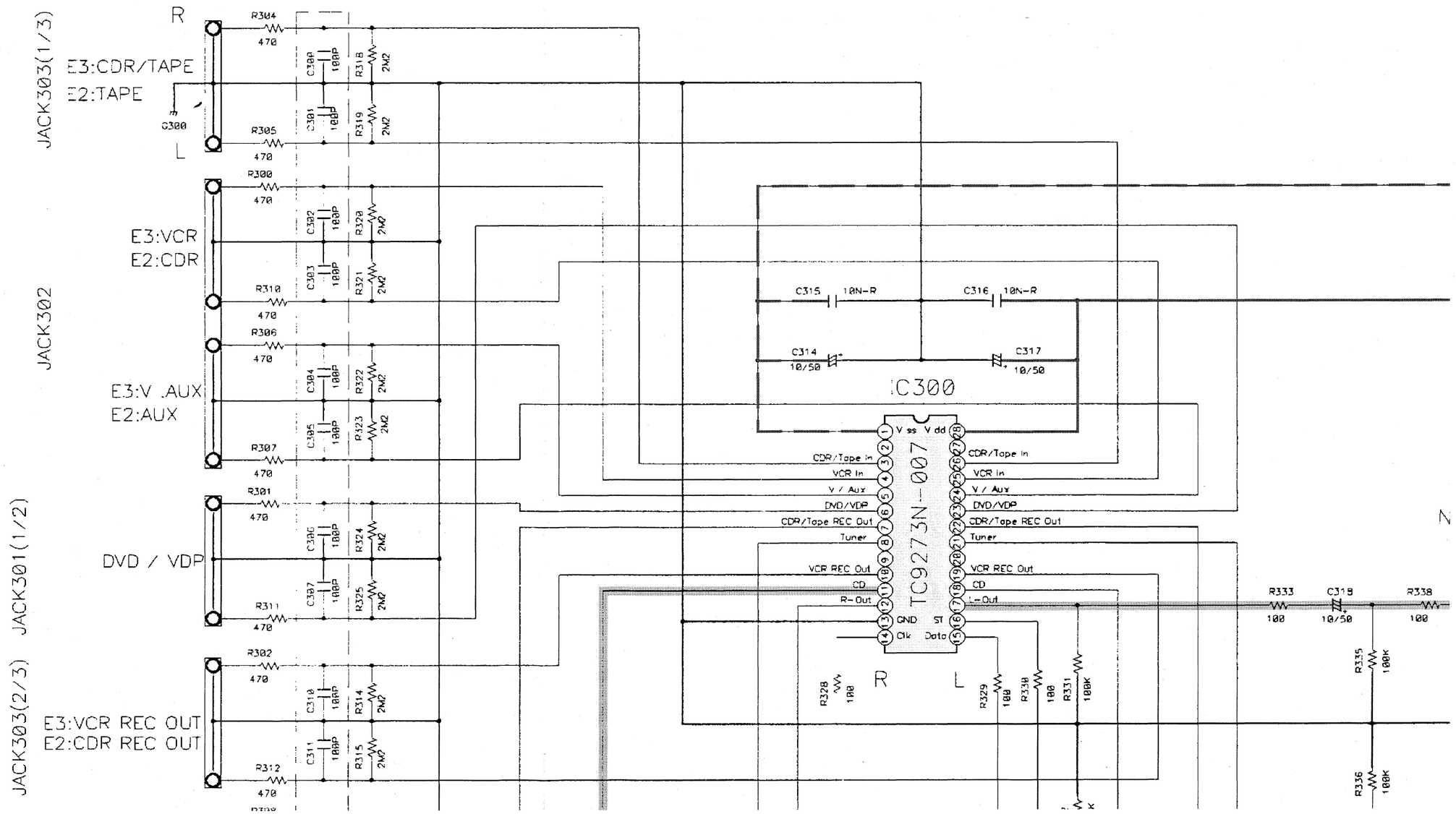
+ B LINE
– B LINE
SIGNAL LINE

SCHEMATIC DIAGRAMS(1/5)
INPUT UNIT
VIDEO UNIT

SCHEMATIC DIAGRAMS(1/5)

1 2 3 4 5 6

INPUT SECTION



6 7 8 9 10 11

A B C D

VIDEO SECTION

JACK502(1/2)

VCR
V . AUX
DVD / VDP
VCR OUT
MONITOR OUT
JACK503

C500 47/25
C501 47/25
C502 47/25
C503 470/6.3
C504 470/6.3
C506 47N
C515 1/50
C516 10/35
R500 68
R501 68
R503 75
R504 75
R505 75
R506 47K
R507 47K
R509 390
R510 390
R512 3K3
R520 75

Q501 KTC3199YS
Q502 DTC114YS
Q503 C3199YS
Q504 DTC114YS
D500 1SS133T

IC500 LA7952
V-Out
S1
S2
VCR
GND
V.AUX
+12V
DVD VDP
NC

IC502 NJM7812FA
Sel 1
Sel 2
+ 15 V
GND
Micom GND
Vdd
I511 Data
CN605

R513 10K
C507 47N
C508 100/16

Mode	Sel 1	Sel 2
Power on	L	L
V / AUX	H	L
DVD / VDP	L	H
VCR	H	H

Room to room remocon in

904

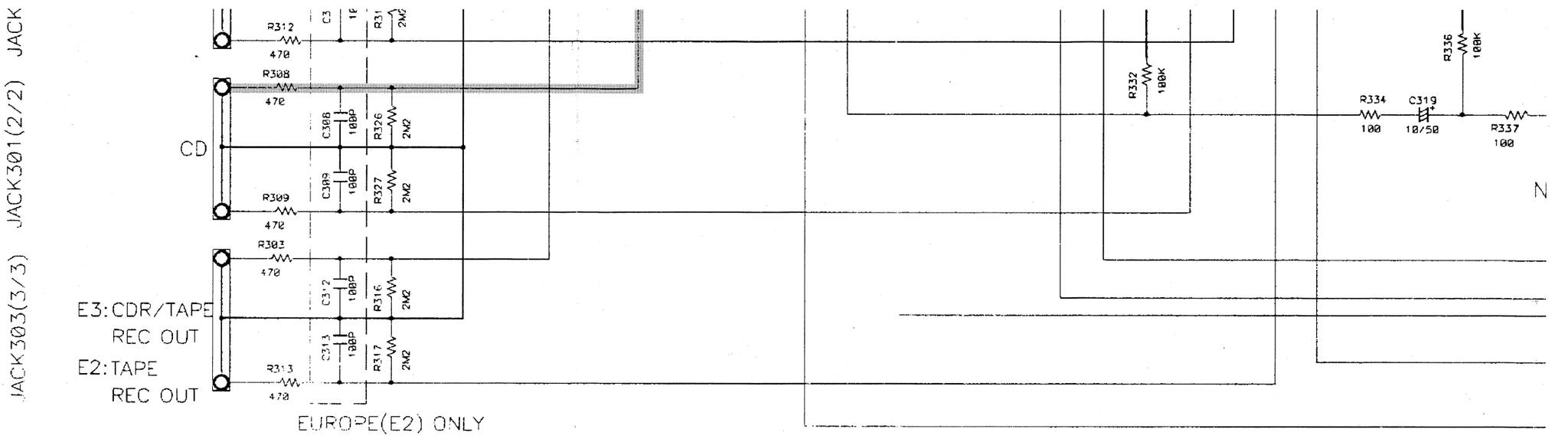
FROM VOLUME B'D

NJM 2068DD

IC301:1
IC301:2

R338 100
R339 100
C320 10/50
R341 100K
R342 100K
R343 10(1W)-R
R344 10(1W)-R

TO VOLUME B'D



NOTICE

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WARNING:

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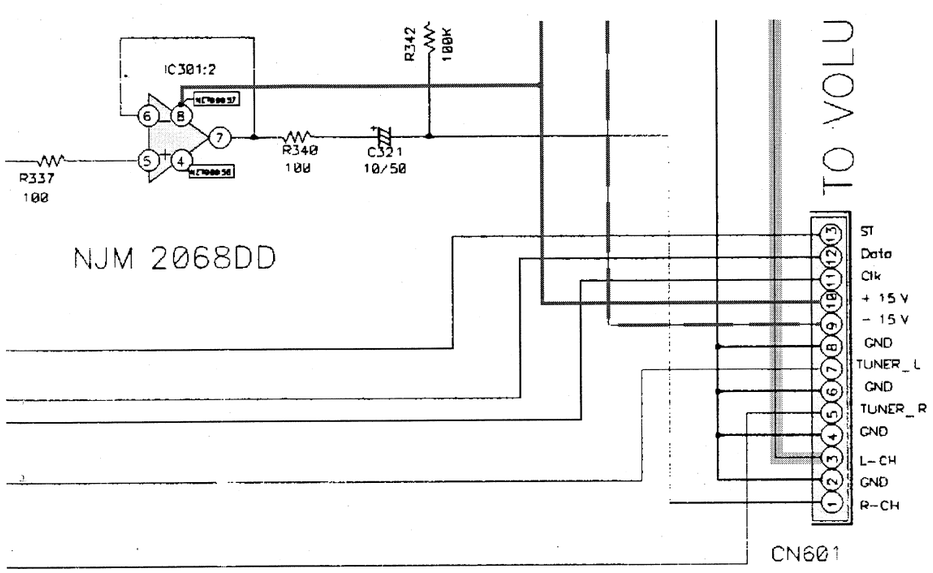
Use ONLY replacement parts recommen

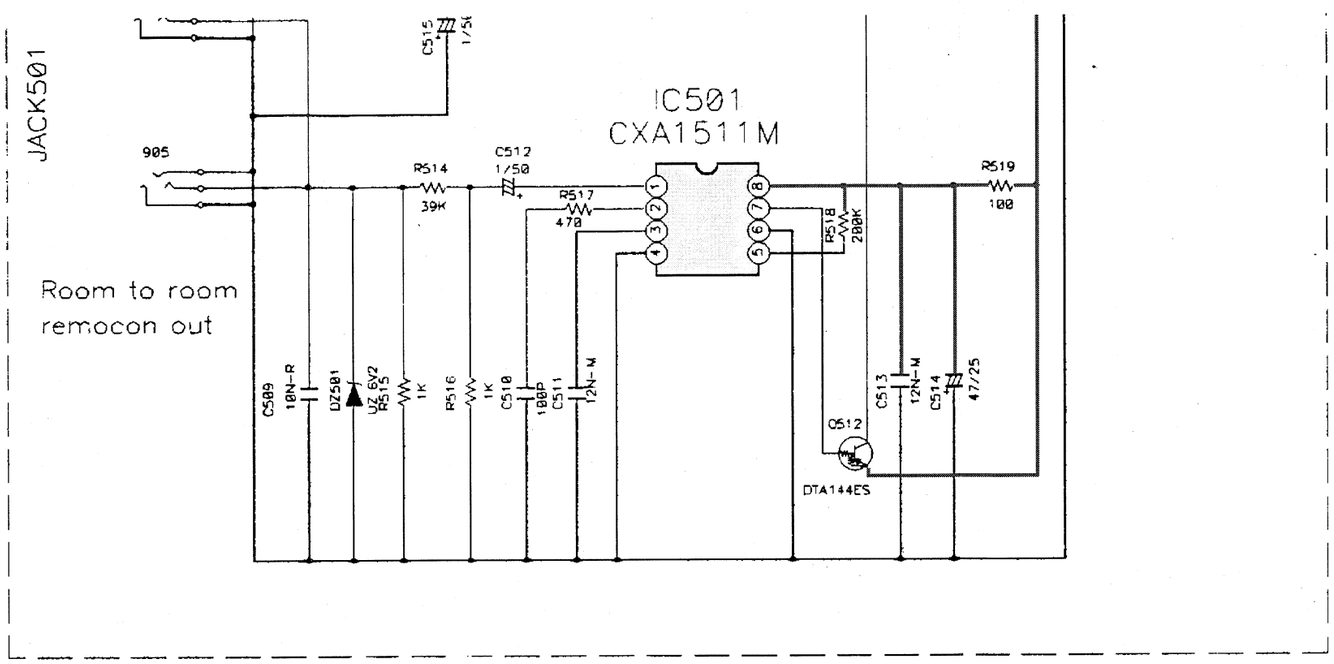
CAUTION:

Before returning the unit to the customer,
leakage current check or (2) a line to cha
current exceeds 0.5 milliamps, or if the re
of the power card is less than 460kohms

WARNING:

DO NOT return the unit to the customer u
corrected.





USA(E3) ONLY

have critical characteristics.
commended by the manufacture.

ustomer, make sure you make either (1) a
ıe to chassis resistance check. If the leakage
r if the resistance from chassis to either side
0kohms, the unit is defective.

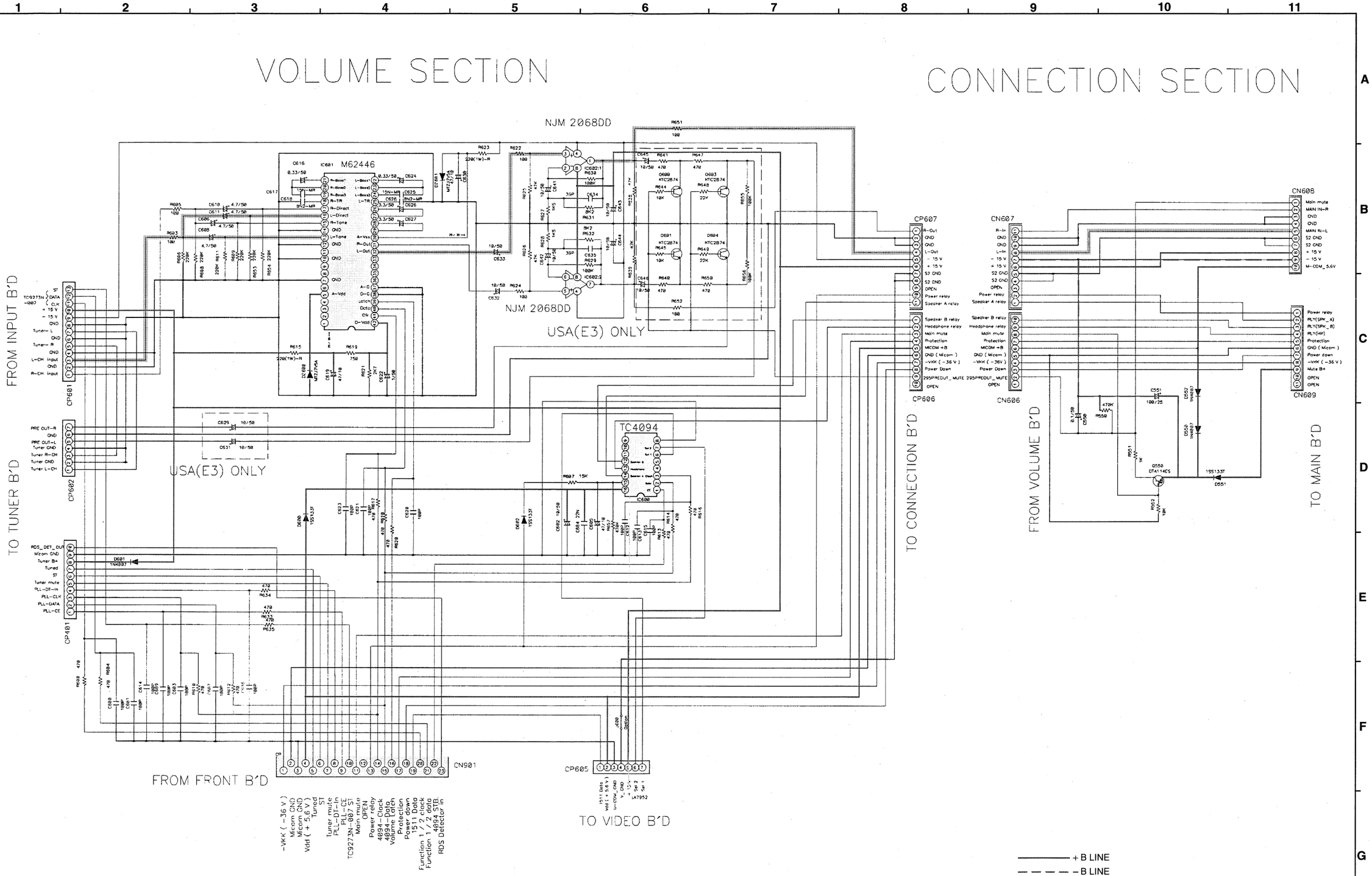
stomer until the problem is located and

+ B LINE
– B LINE
SIGNAL LINE

SCHEMATIC DIAGRAMS(1/5)
INPUT UNIT
VIDEO UNIT

E F G H

SCHEMATIC DIAGRAMS(2/5)



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CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:

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Use ONLY replacement parts recommended by the manufacture.

CAUTION:

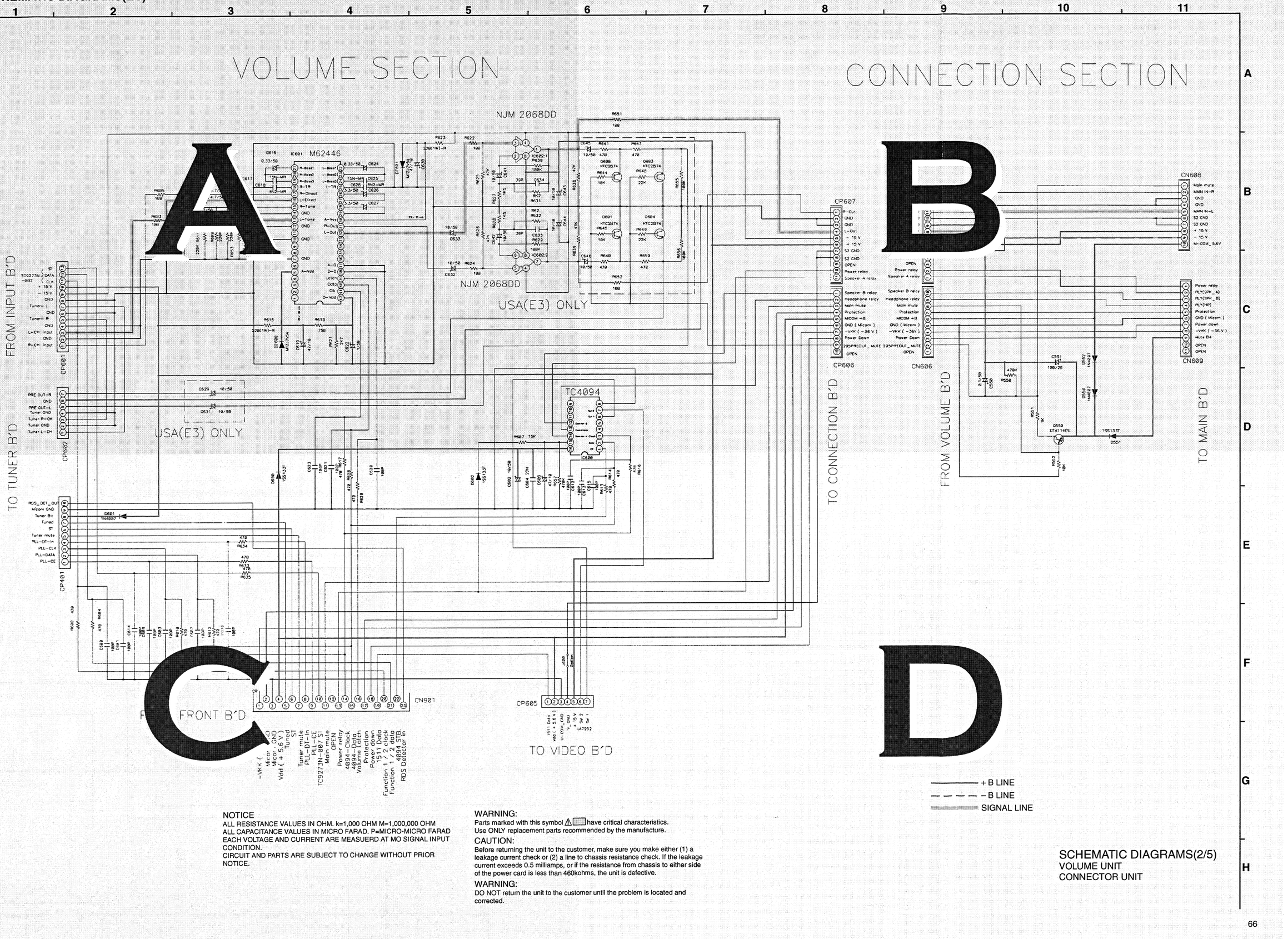
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power card is less than 460kohms, the unit is defective.

WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAMS(2/5)
VOLUME UNIT
CONNECTOR UNIT

SCHEMATIC DIAGRAMS(2/5)



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WARNING:
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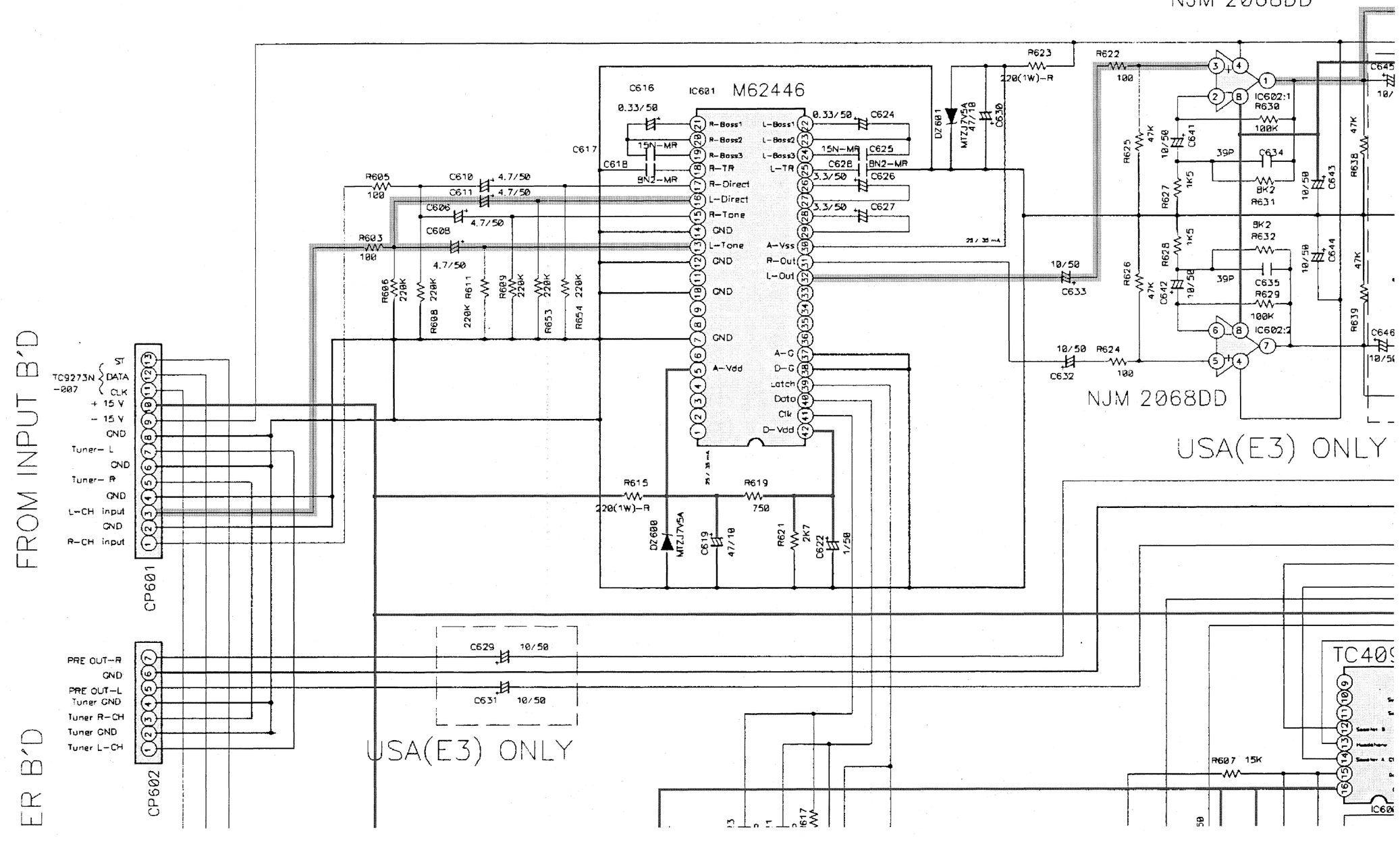
SCHEMATIC DIAGRAMS(2/5)
VOLUME UNIT
CONNECTOR UNIT

SCHEMATIC DIAGRAMS(2/5)

1 2 3 4 5 6

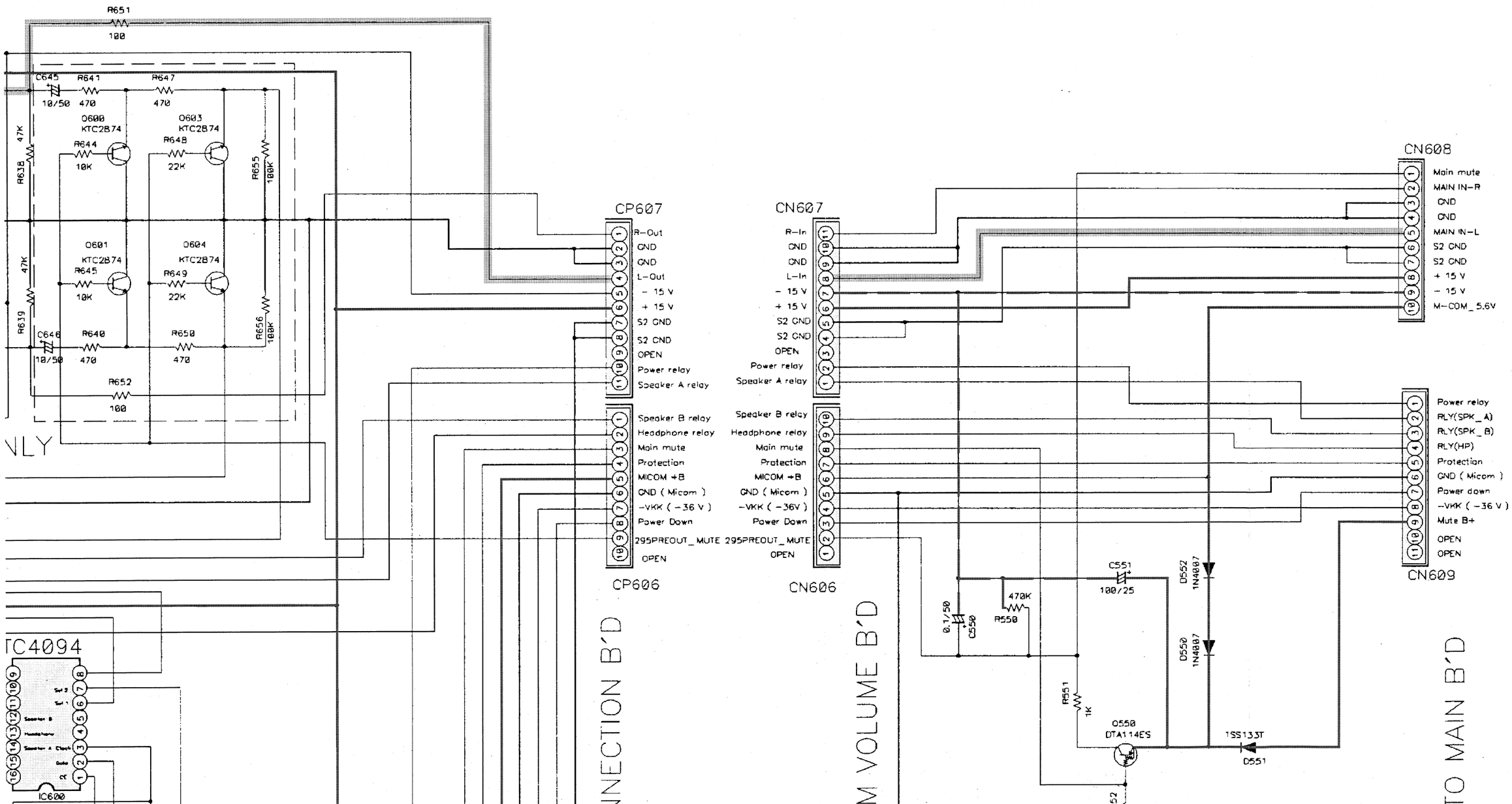
VOLUME SECTION

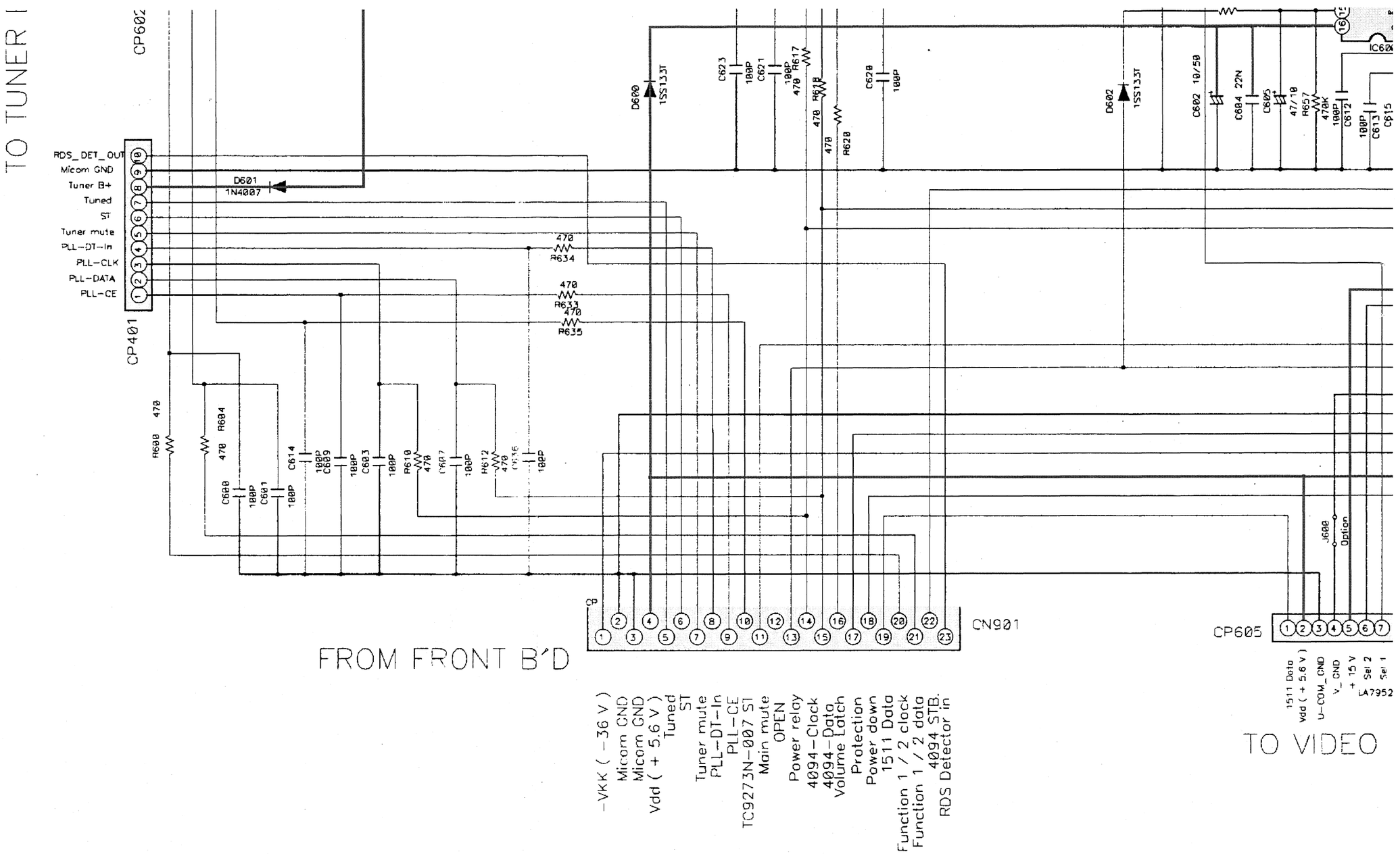


6 7 8 9 10 11

CONNECTION SECTION

A B C D





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WARNING:

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Use ONLY replacement parts recommer

CAUTION:

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leakage current check or (2) a line to ch
current exceeds 0.5 milliamps, or if the r
of the power card is less than 460kohms

WARNING:

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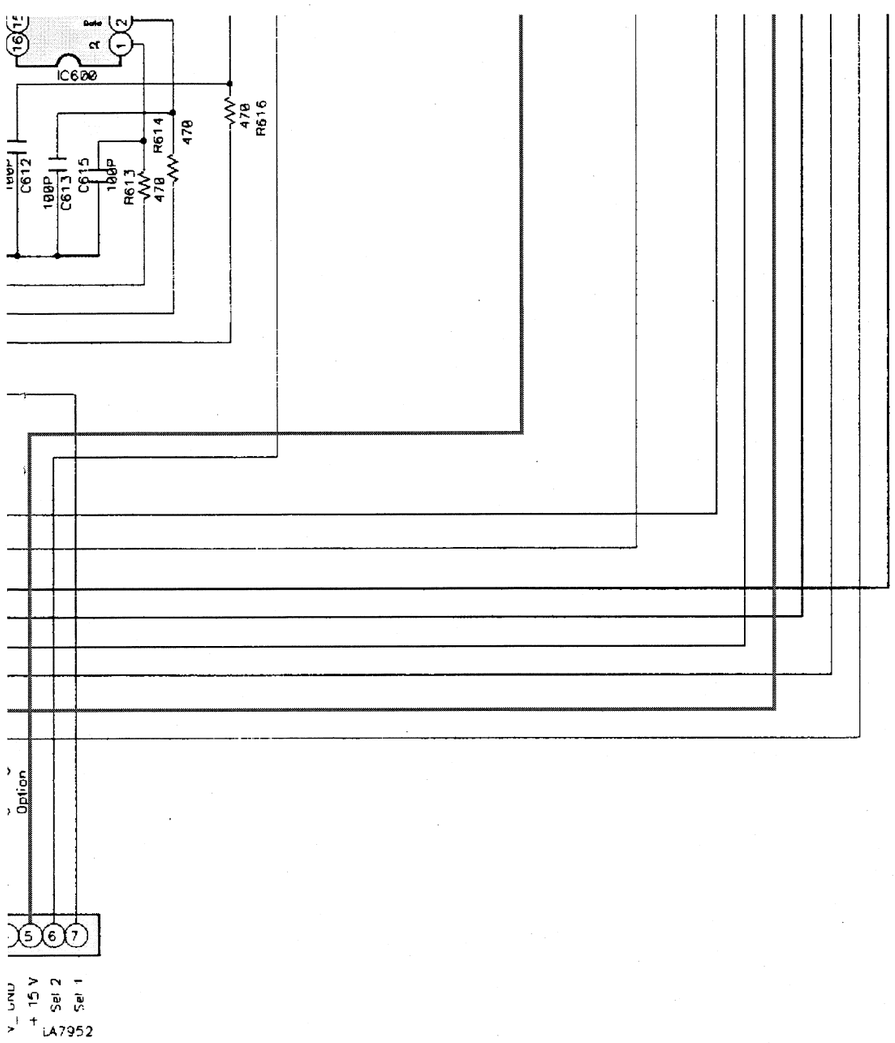
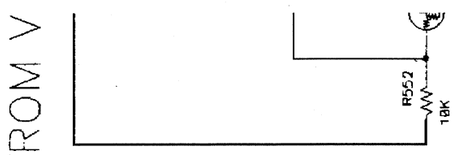
corrected.



EO B'D



TO CONNE

FROM V

TO M

have critical characteristics.
commended by the manufacture.

customer, make sure you make either (1) a
ne to chassis resistance check. If the leakage
or if the resistance from chassis to either side
30kohms, the unit is defective.

ustomer until the problem is located and

+ B LINE

– B LINE

SIGNAL LINE

SCHEMATIC DIAGRAMS(2/5)

VOLUME UNIT
CONNECTOR UNIT

E

F

G

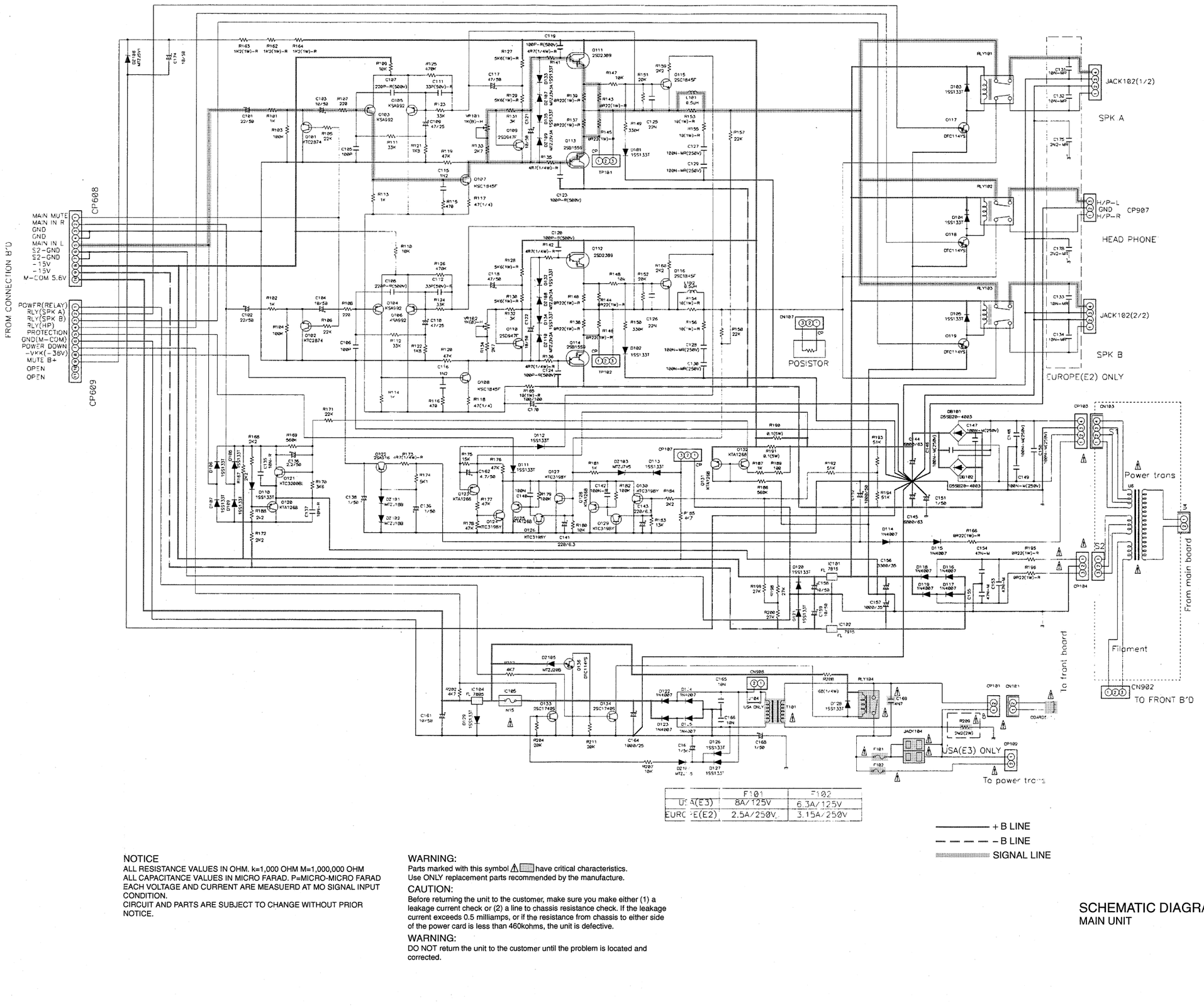
H

SCHEMATIC DIAGRAMS(3/5)

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G H

MAIN SECTION



	F101	F102
USA(E3)	8A/125V	6.3A/125V
EUROPE(E2)	2.5A/250V	3.15A/250V

NOTICE

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CAUTION:

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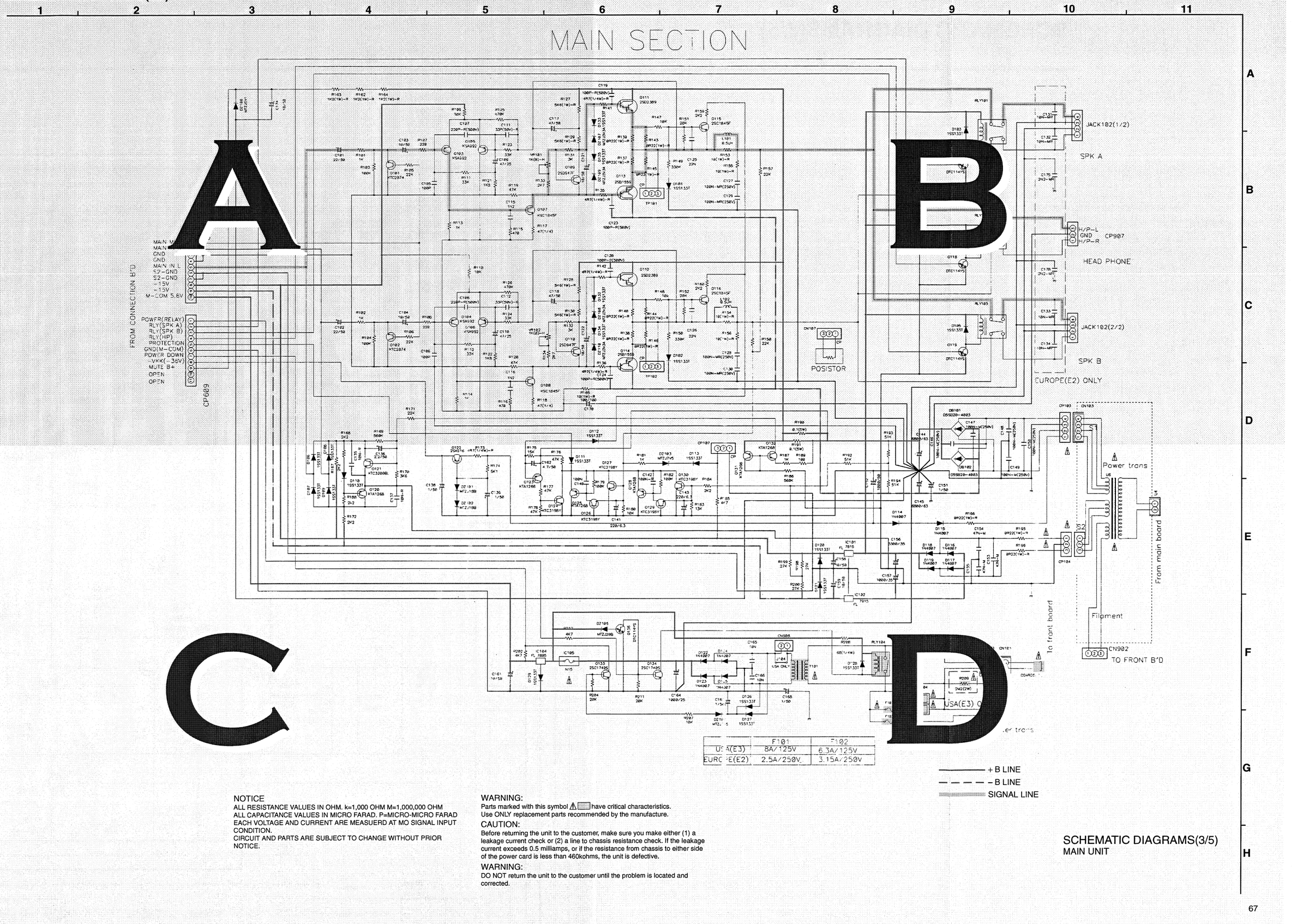
WARNING:

DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAMS(3/5)
MAIN UNIT

SCHEMATIC DIAGRAMS(3/5)



	F101	F102
US A(E3)	8A/125V	6.3A/125V
EURC E(E2)	2.5A/250V	3.15A/250V

— + B LINE
– – – – – B LINE
▒▒▒▒▒ SIGNAL LINE

NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
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WARNING:
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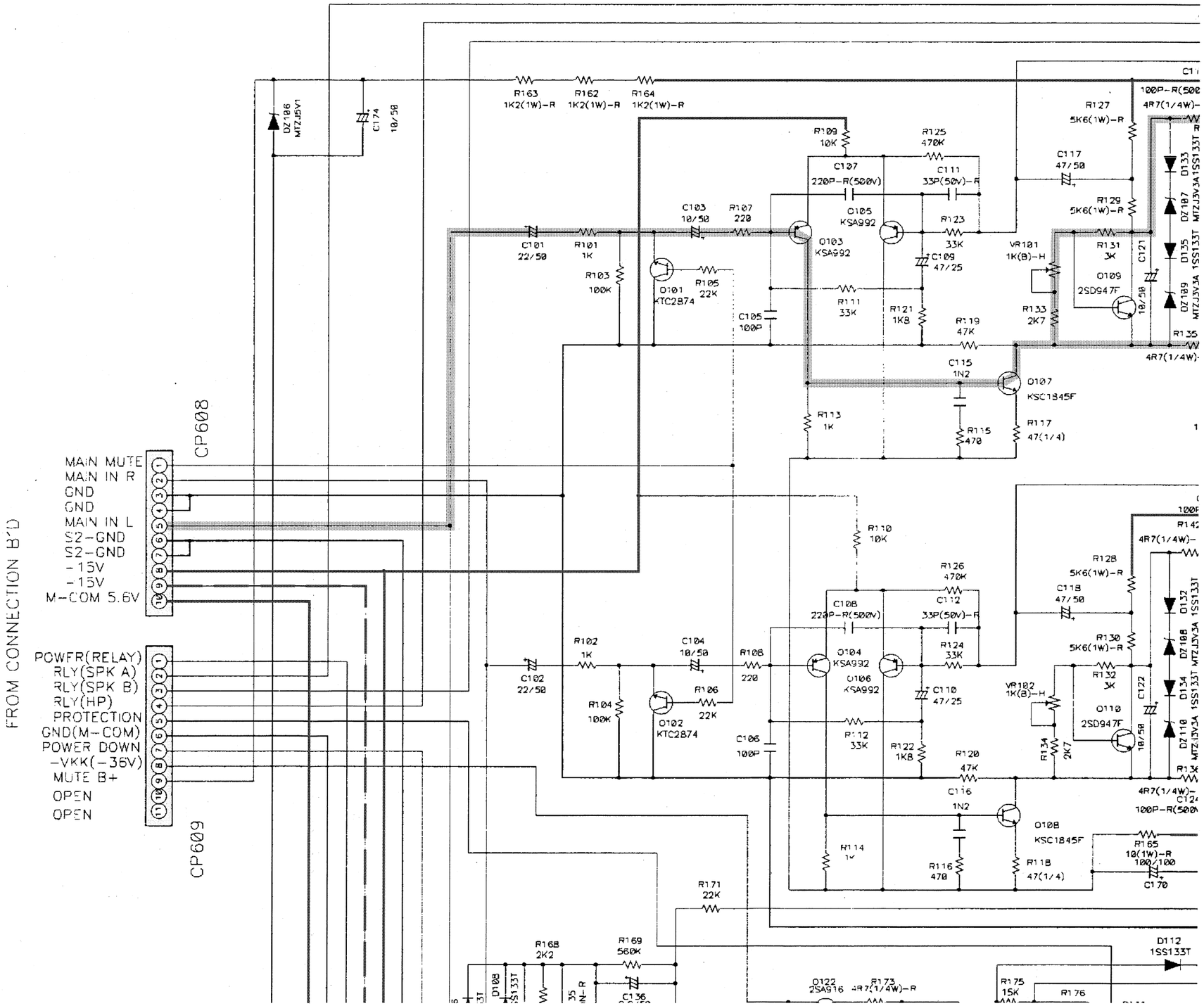
SCHEMATIC DIAGRAMS(3/5)
MAIN UNIT

SCHEMATIC DIAGRAMS(3/5)

1 2 3 4 5 6

MAIN



6 7 8 9 10 11

A B C D

AIN SECTION

C119 100P-R(500V)
4R7(1/4W)-R
R141
Q111 2SD2389
R147 10K
R151 20K
R159 2K2
Q115 2SC1845F
L101 0.5UH
R153 10(1W)-R
R155 10(1W)-R
R139 0R22(1W)-R
R143 0R22(1W)-R
R137 0R22(1W)-R
R145 0R22(1W)-R
R149 330K
C125 22N
R157 22K
Q113 2SB1559
CP
TP101
R135 4R7(1/4W)-R
C123 100P-R(500V)
D101 1SS133T
C127 100N-MR(250V)
C129 100N-MR(250V)
DZ107 MTZJ3V3A
DZ109 MTZJ3V3A
D135 1SS133T
D133 1SS133T
DZ108 MTZJ3V3A
D132 1SS133T

C120 100P-R(500V)
R142 4R7(1/4W)-R
Q112 2SD2389
R148 10k
R152 20K
R162 2K2
Q116 2SC1845F
L102 0.5UH
R154 10(1W)-R
R140 0R22(1W)-R
R144 0R22(1W)-R
R138 0R22(1W)-R
R146 0R22(1W)-R
R150 330K
C126 22N
R156 10(1W)-R
R158 22K
Q114 2SB1559
CP
TP102
R136 4R7(1/4W)-R
C124 100P-R(500V)
D102 1SS133T
C128 100N-MR(250V)
C130 100N-MR(250V)
DZ110 MTZJ3V3A
D134 1SS133T
DZ108 MTZJ3V3A
D132 1SS133T
C122 10/50
C121 10/50
R165 (1W)-R
00/100
C170

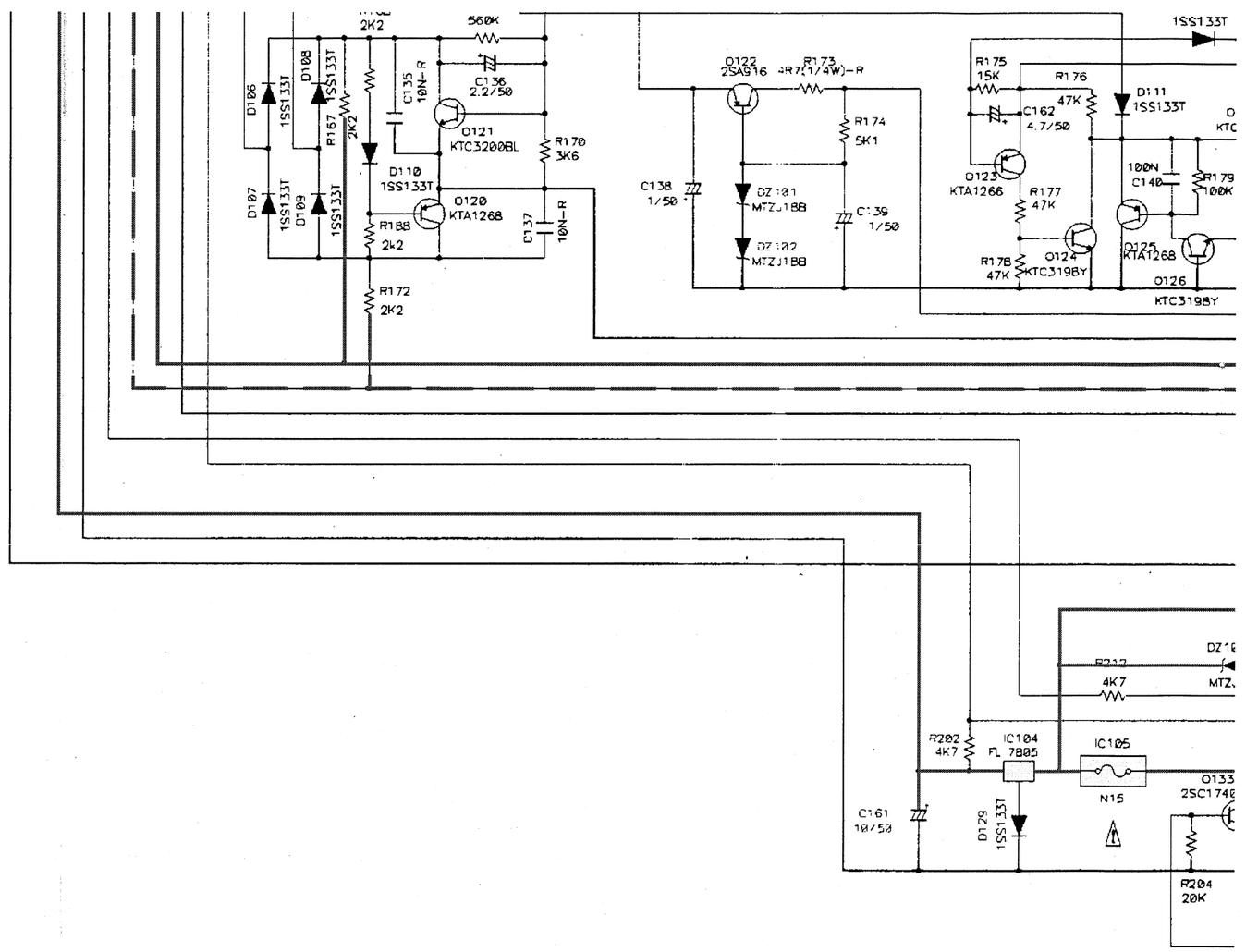
CN107
CP
POSISTOR

RLY101
D103 1SS133T
Q117 DTC114YS
C131 10N-MR
C132 10N-MR
JACK102(1/2)
SPK A
C175 2N2-MR

RLY102
D104 1SS133T
Q118 DTC114YS
H/P-L
GND
H/P-R
CP907
HEAD PHONE
C178 2N2-MR

RLY103
D105 1SS133T
Q119 DTC114YS
C133 10N-MR
C134 10N-MR
JACK102(2/2)
SPK B
EUROPE(E2) ONLY

D112 1SS133T
CP107
D113
DZ103
R181
R190 0.1(5W)
R191 0.1(5W)
Q132 KTA1268
R187
R189
R197
R193 51K
C144 6800/63
C146 100N-M(250V)
DB101 D5SB20-4003
C147 100N-M(250V)
C148 100N-M(250V)
C150 100N-M(250V)
CP103
CN103
S1



NOTICE

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ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
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WARNING:

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Use ONLY replacement parts recommende

CAUTION:

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leakage current check or (2) a line to chass
current exceeds 0.5 milliamps, or if the resi
of the power card is less than 460kohms, tl

WARNING:

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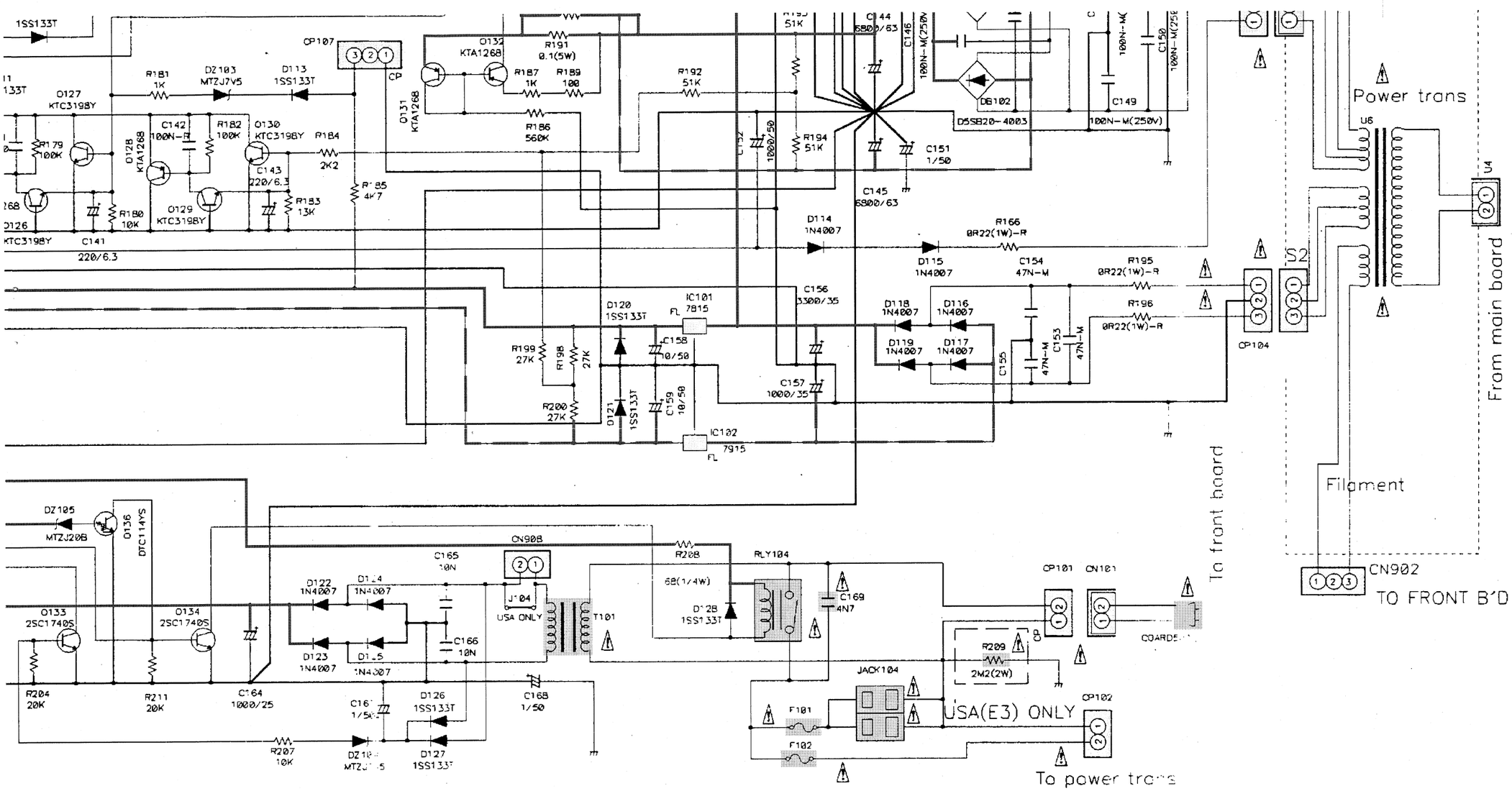
corrected.



	F101	F102
USA(E3)	8A/125V	6.3A/125V
EUROPE(E2)	2.5A/250V	3.15A/250V

+ B LINE

– B LINE

SIGNAL LINE

have critical characteristics.
nmended by the manufacture.

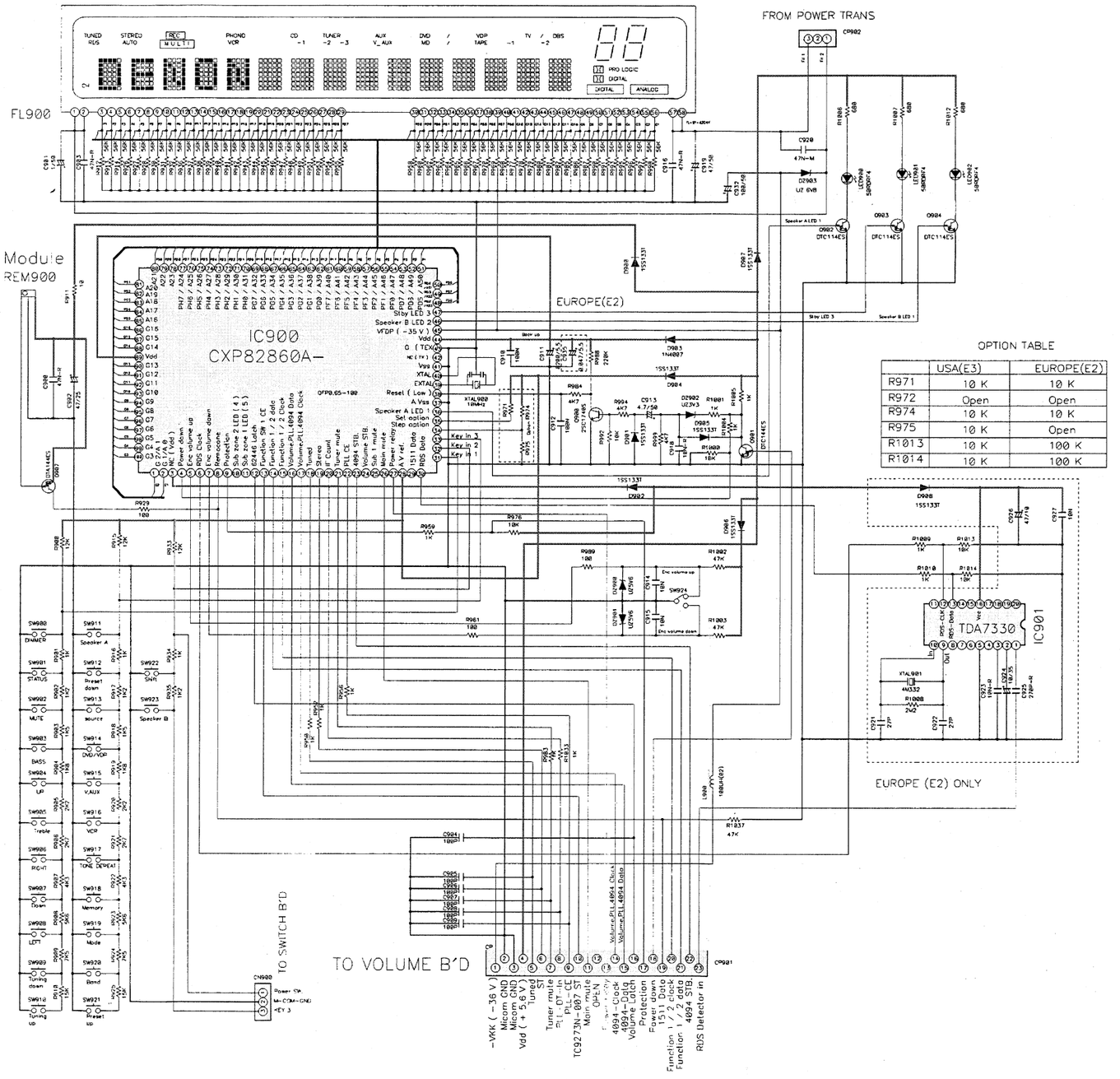
tomer, make sure you make either (1) a
to chassis resistance check. If the leakage
the resistance from chassis to either side
ohms, the unit is defective.

omer until the problem is located and

SCHEMATIC DIAGRAMS(3/5)
MAIN UNIT

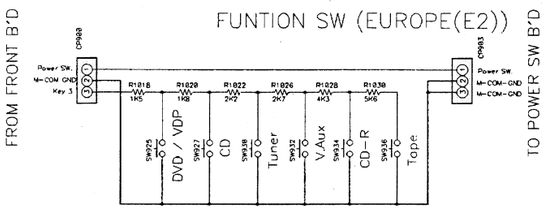
SCHEMATIC DIAGRAMS(4/5)

FRONT SECTION

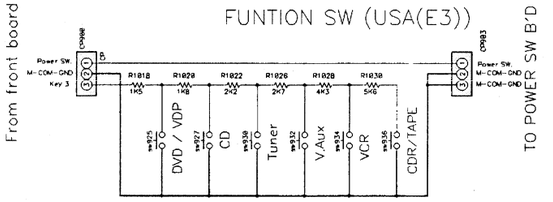


	USA(E3)	EUROPE(E2)
R971	10 K	10 K
R972	Open	Open
R974	10 K	10 K
R975	10 K	Open
R1013	10 K	100 K
R1014	10 K	100 K

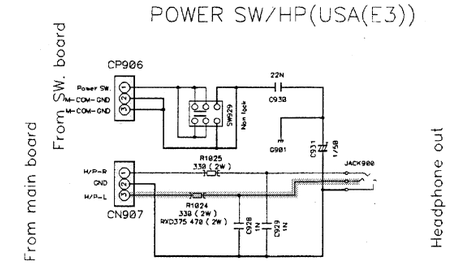
FUNTION SW (EUROPE(E2))



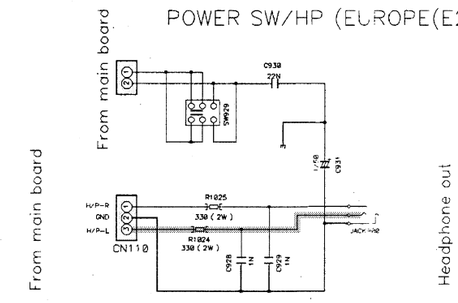
FUNTION SW (USA(E3))



POWER SW/HP(USA(E3))



POWER SW/HP (EUROPE(E2))



+ B LINE

SIGNAL LINE

NOTICE

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WARNING:

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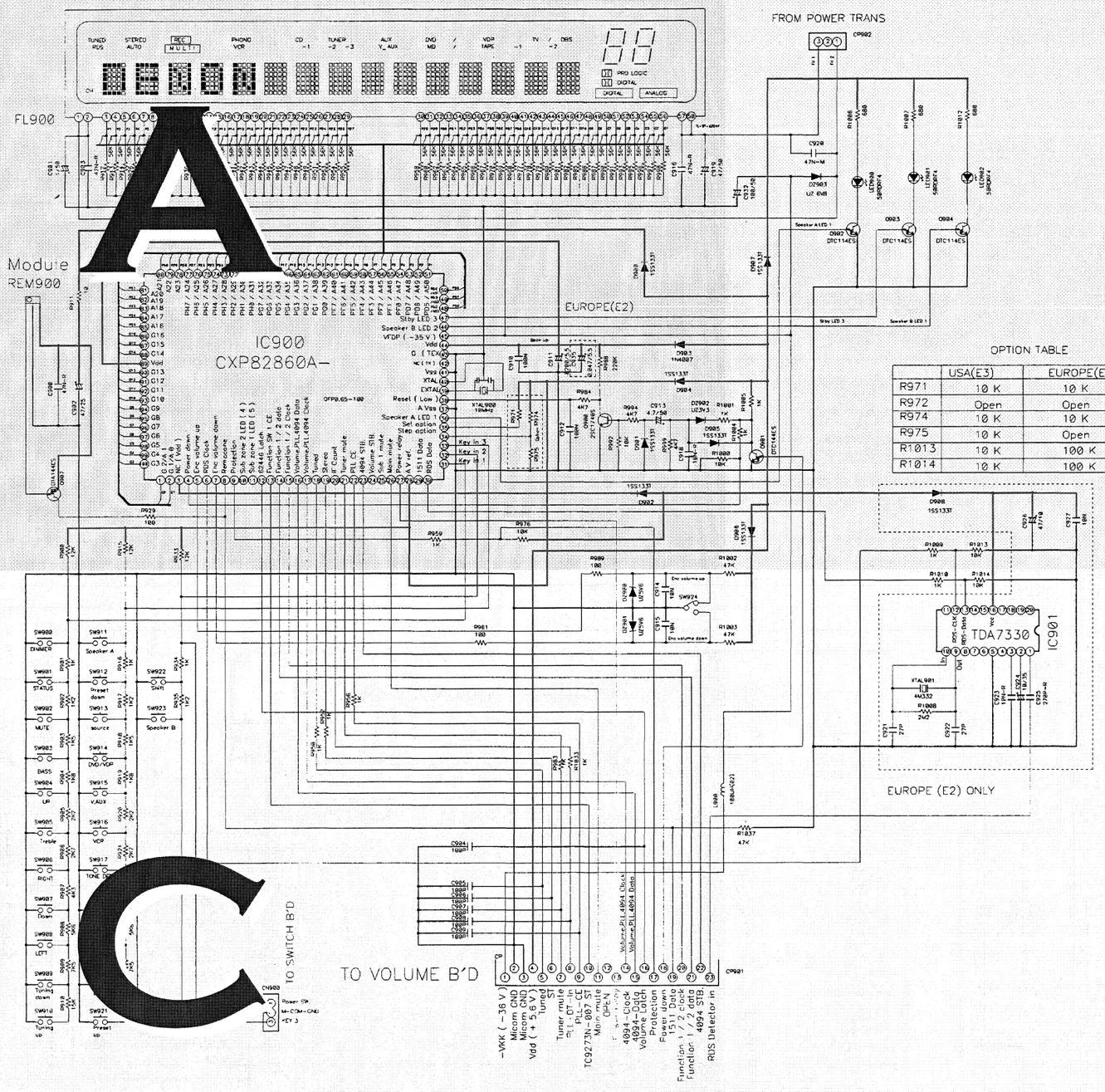
SCHEMATIC DIAGRAMS(4/5)
FRONT UNIT
SWITCH UNIT
POWER SW/HP UNIT

SCHEMATIC DIAGRAMS(4/5)

1 2 3 4 5 6 7 8 9 10 11

FRONT SECTION



	USA(E3)	EUROPE(E2)
R971	10 K	10 K
R972	Open	Open
R974	10 K	10 K
R975	10 K	Open
R1013	10 K	100 K
R1014	10 K	100 K

NOTICE
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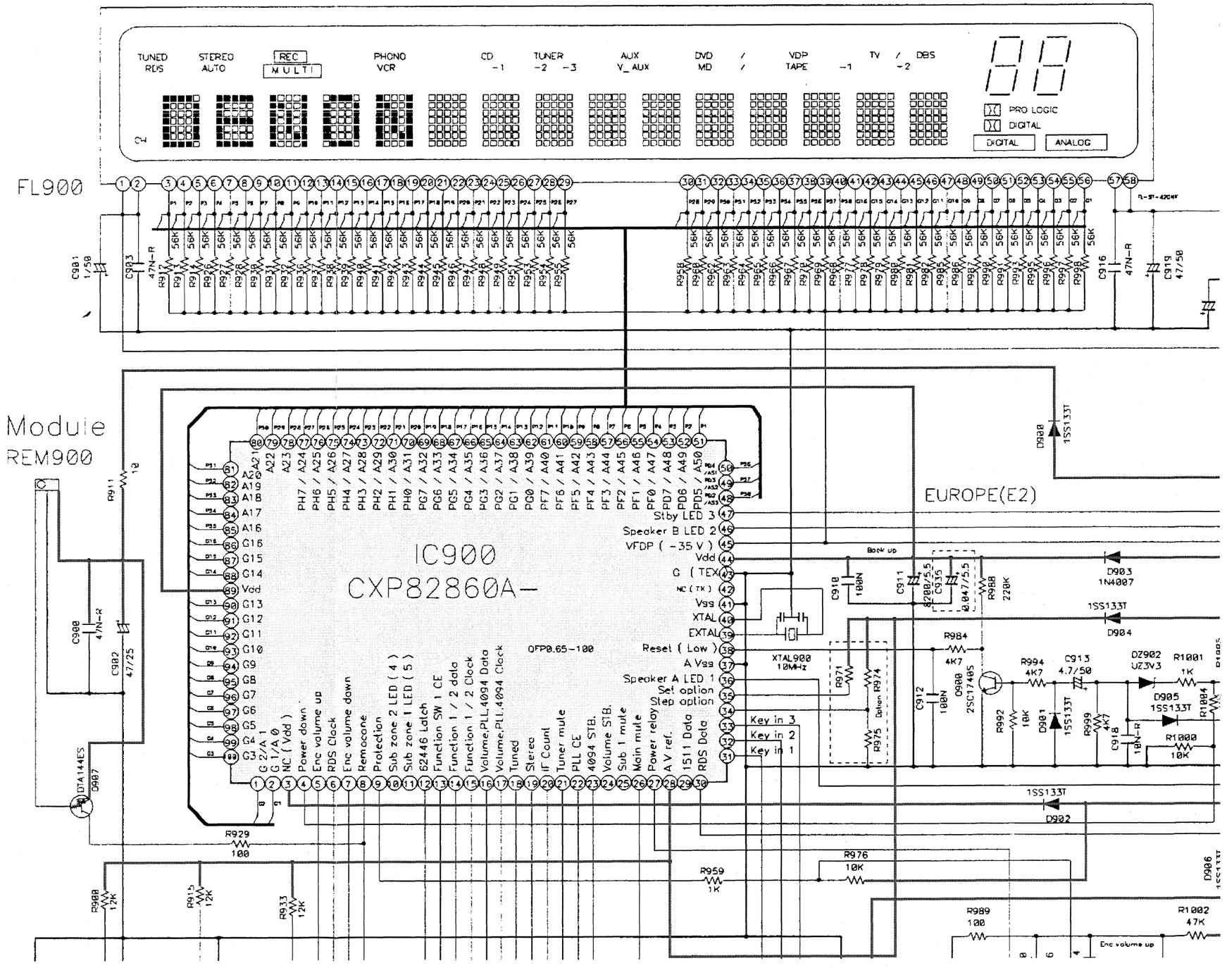
SCHEMATIC DIAGRAMS(4/5)
FRONT UNIT
SWITCH UNIT
POWER SW/HP UNIT

SCHEMATIC DIAGRAMS(4/5)

1 2 3 4 5 6

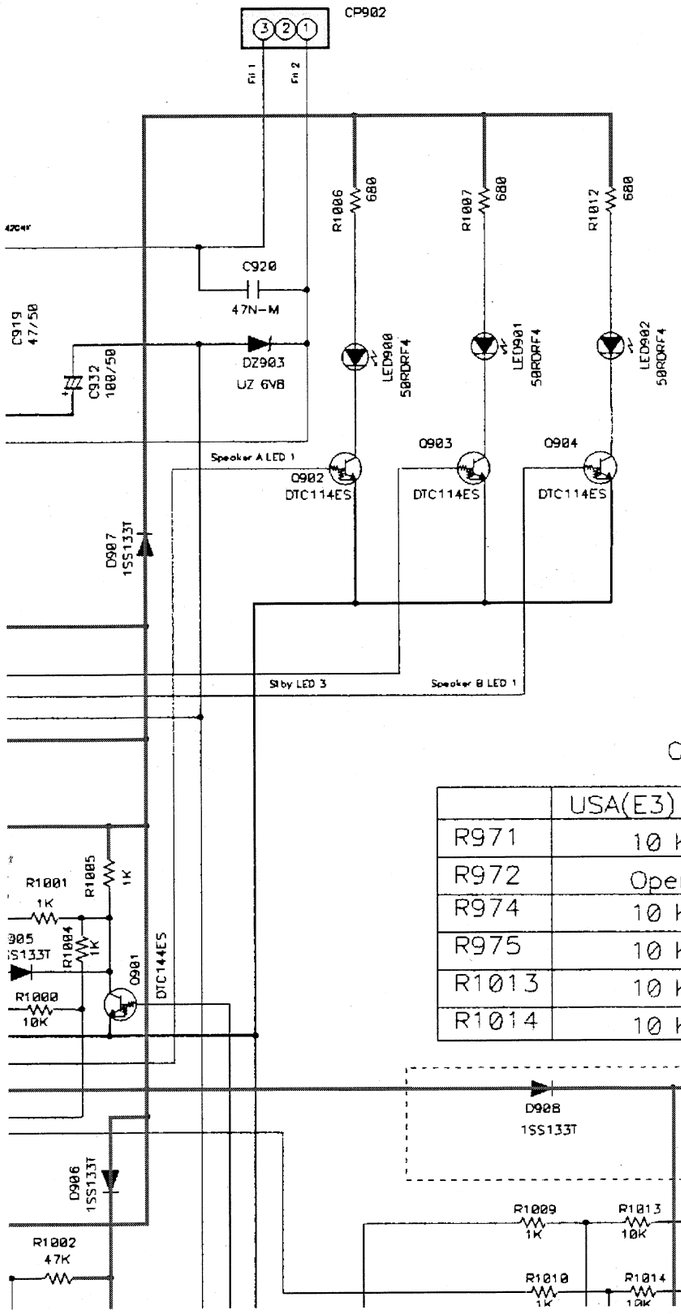
FRONT S



6 7 8 9 10 11

SECTION

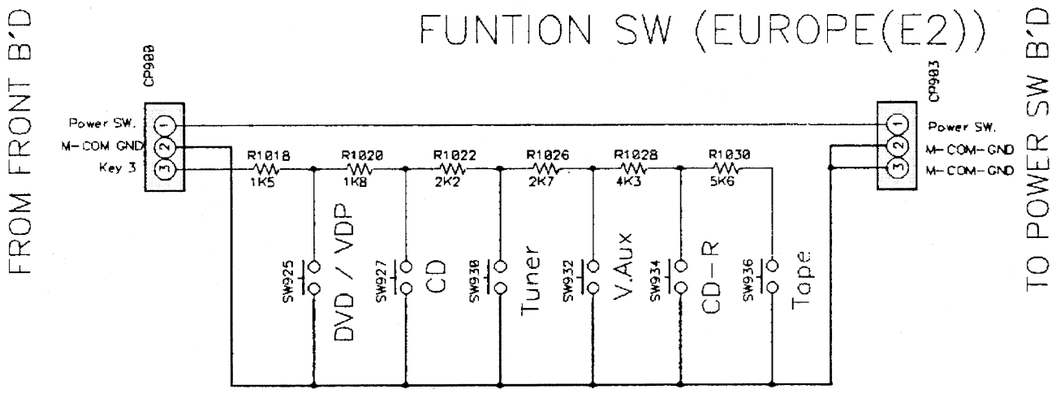
FROM POWER TRANS



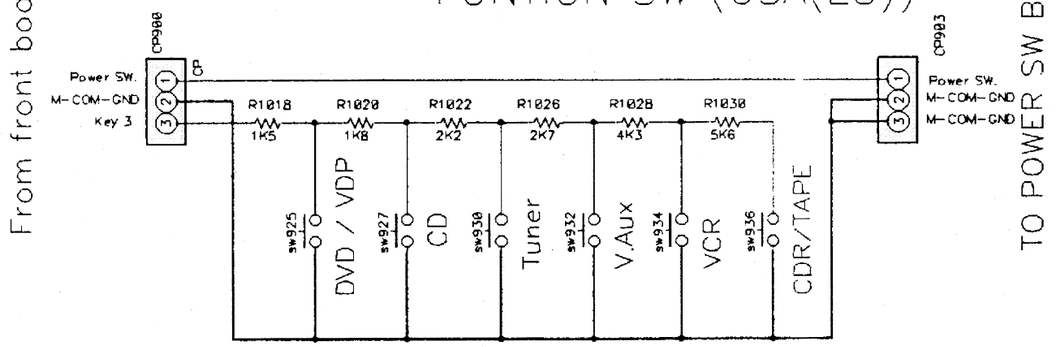
OPTION TABLE

	USA(E3)	EUROPE(E2)
R971	10 K	10 K
R972	Open	Open
R974	10 K	10 K
R975	10 K	Open
R1013	10 K	100 K
R1014	10 K	100 K

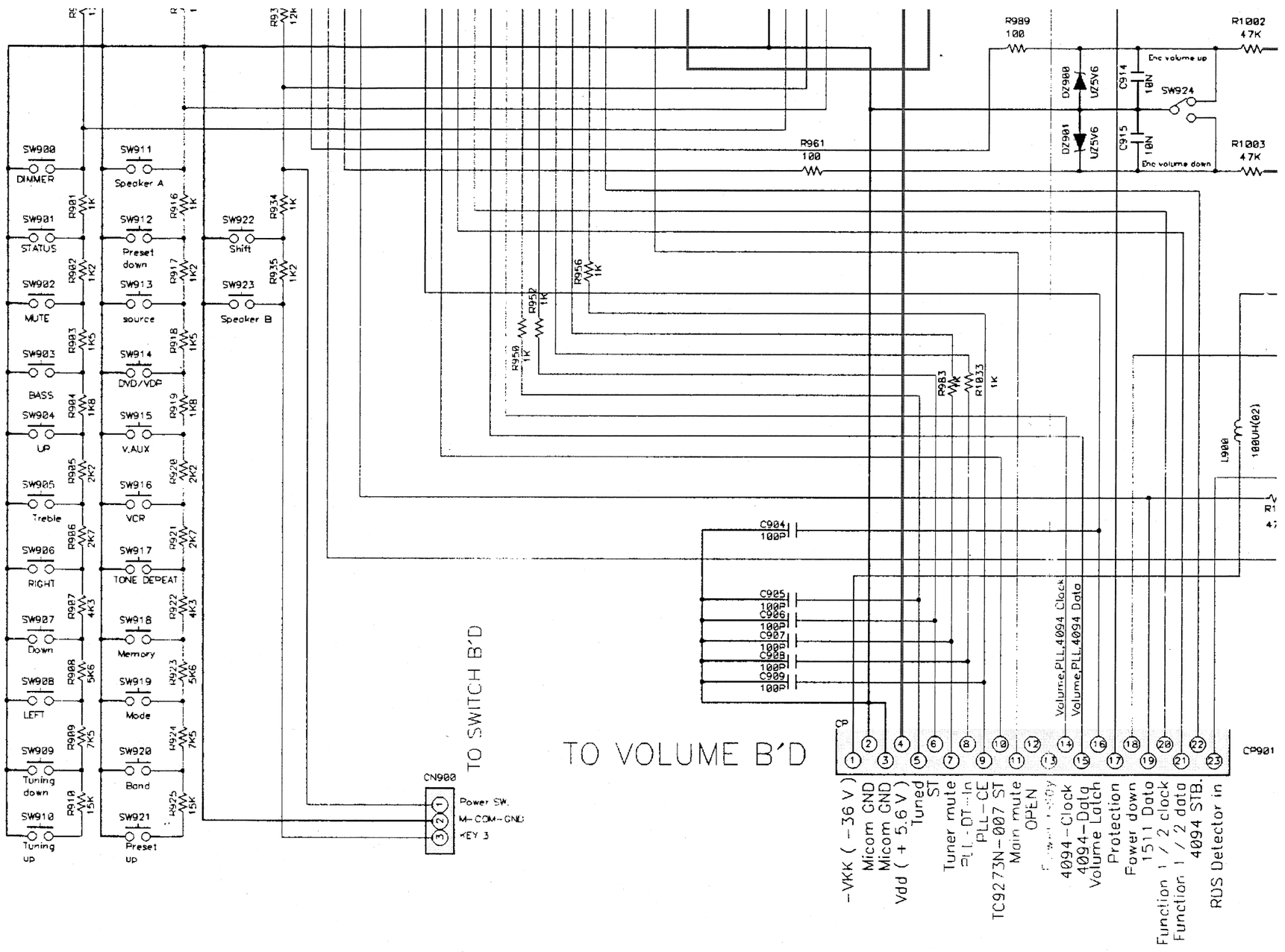
FUNTION SW (EUROPE(E2))



FUNTION SW (USA(E3))



POWER SW/HP(USA(E3))



NOTICE

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Use ONLY replacement parts recommer

CAUTION:

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leakage current check or (2) a line to ch
current exceeds 0.5 milliamps, or if the r
of the power card is less than 460kohms

WARNING:

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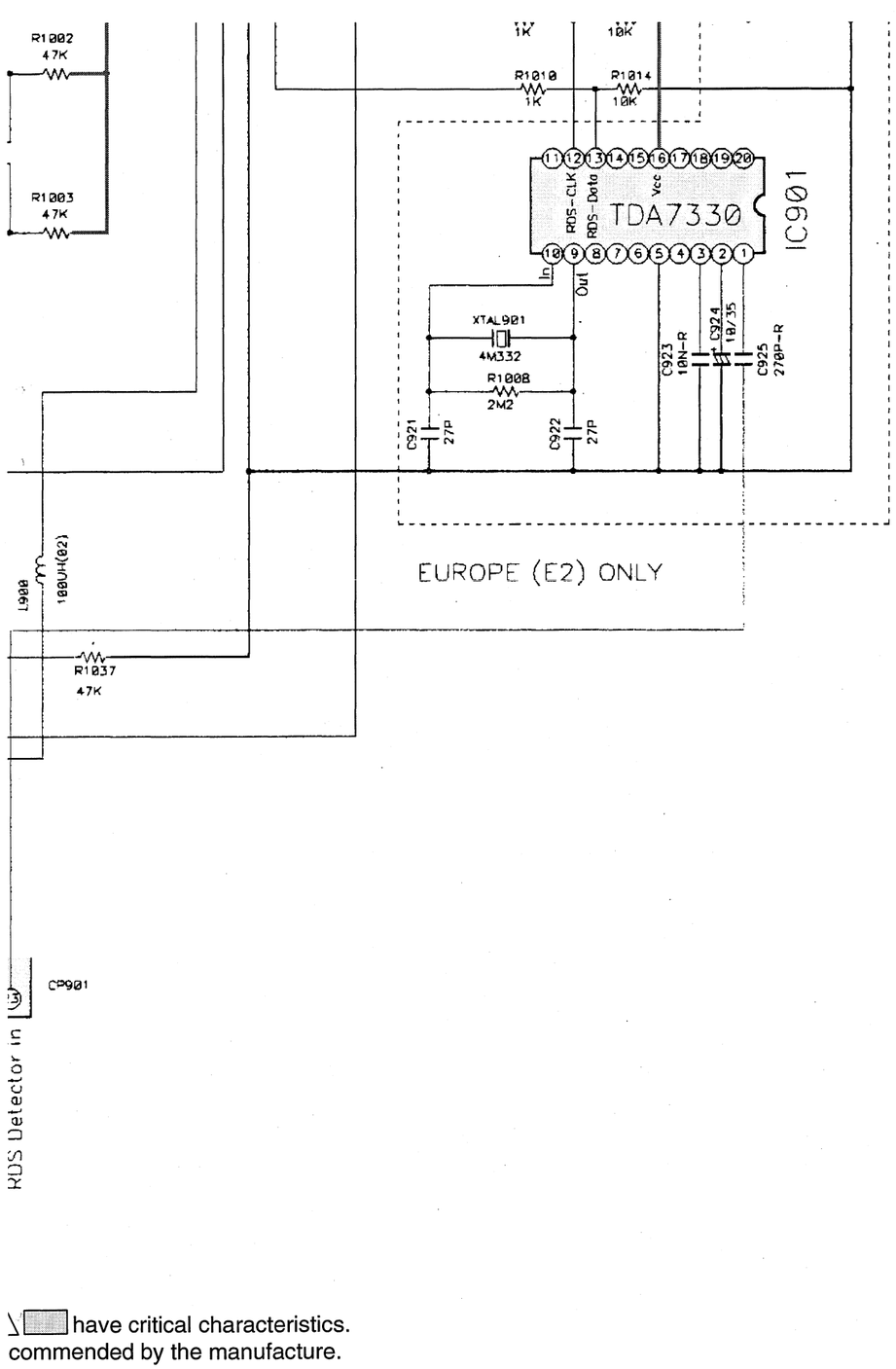
corrected.



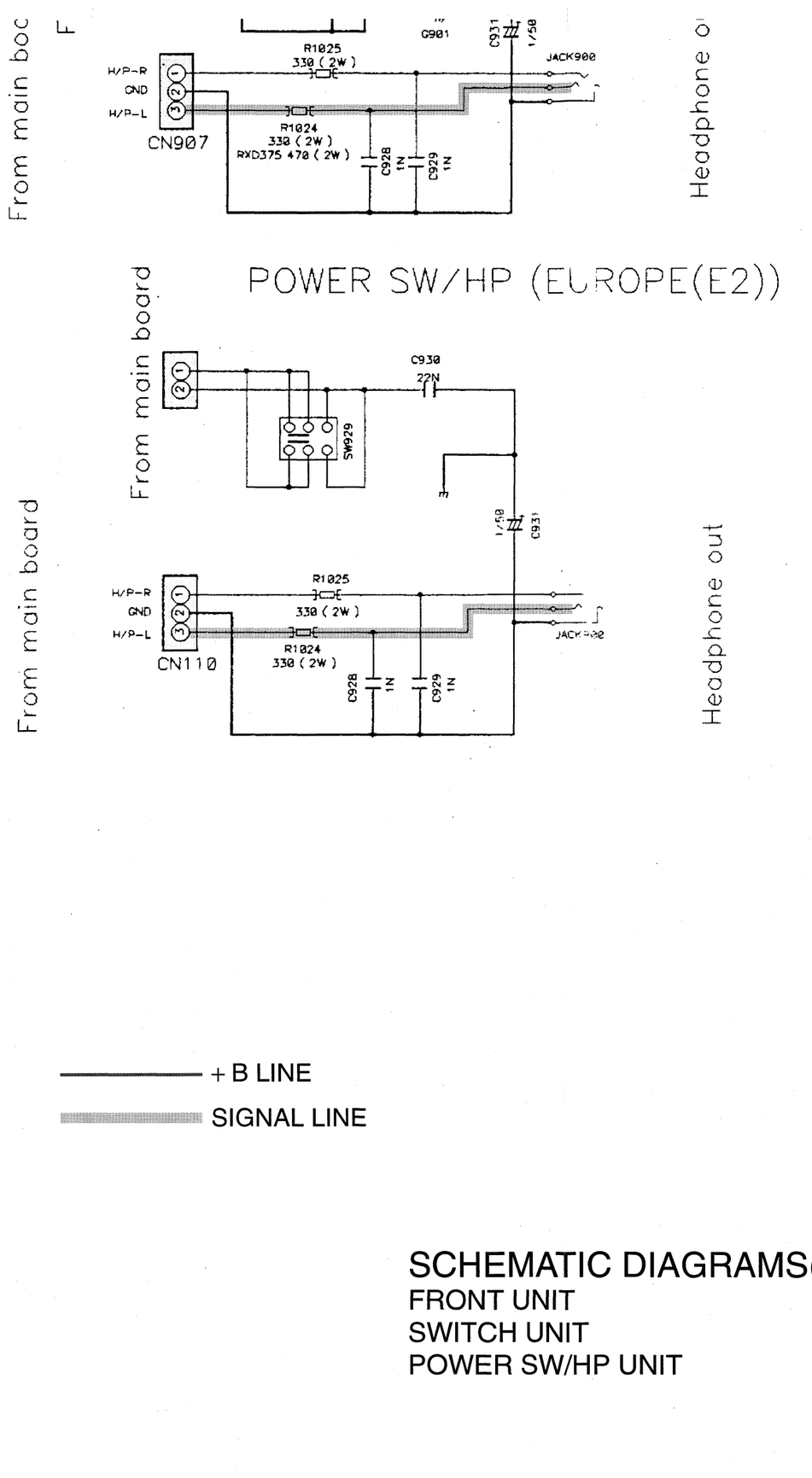
RDS Detector in

CP901

have critical characteristics.
commended by the manufacture.

customer, make sure you make either (1) a
ne to chassis resistance check. If the leakage
or if the resistance from chassis to either side
50kohms, the unit is defective.

ustomer until the problem is located and



+ B LINE

SIGNAL LINE

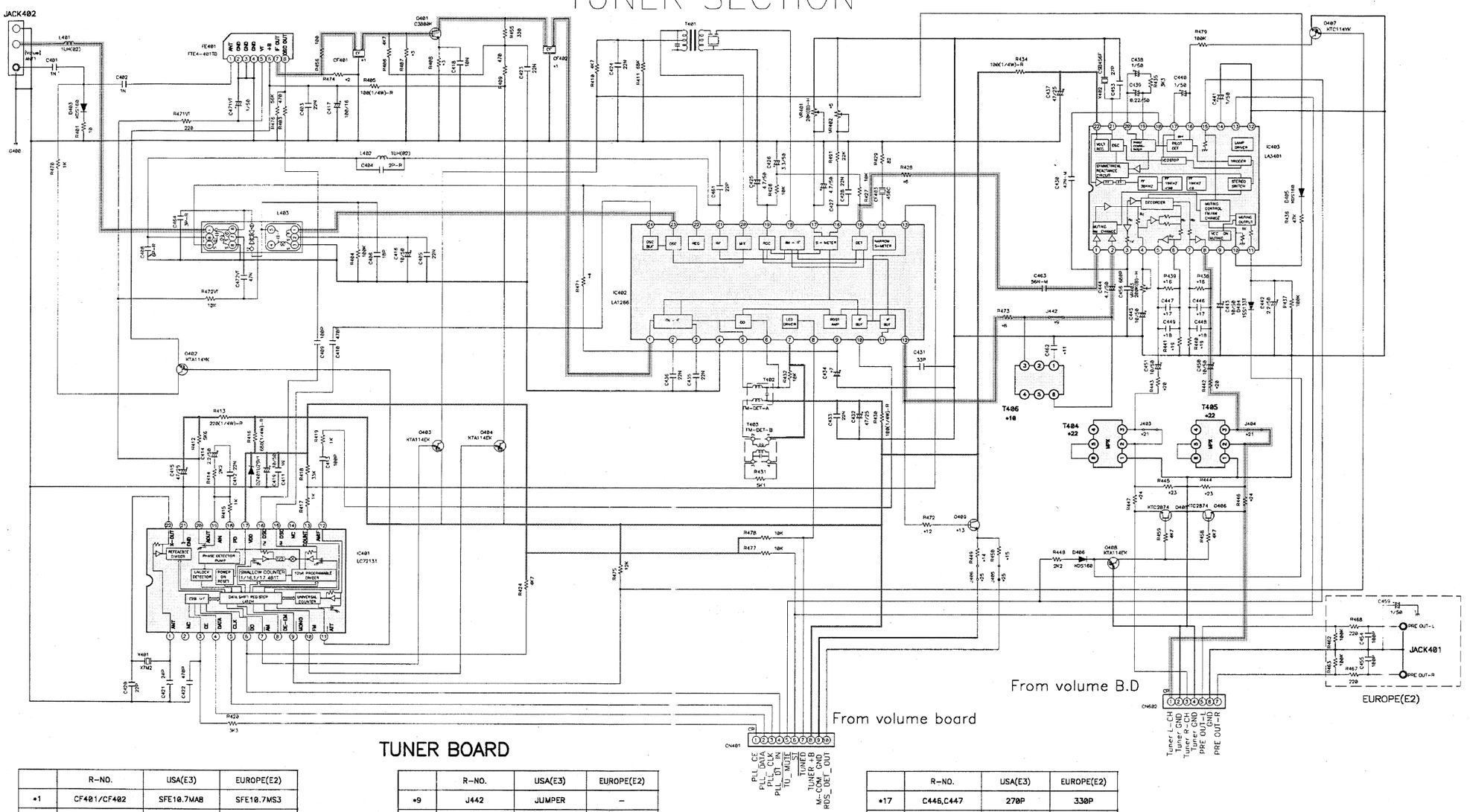
SCHEMATIC DIAGRAMS(4/5)

FRONT UNIT
SWITCH UNIT
POWER SW/HP UNIT

E F G H

SCHEMATIC DIAGRAMS(5/5)

TUNER SECTION



TUNER BOARD

	R-NO.	USA(E3)	EUROPE(E2)
*1	CF401/CF402	SFE10.7MA8	SFE10.7MS3
*2	R474	–	180
*3	R407/R408	470/1.2K	680/680
*4	R471	18K	39K
*5	VR402	50K(B)–H	100K(B)–H
*6	R428	3.3K	10K
*7	C434	1/50	0.33/50
*8	R473	0	2.4K

	R-NO.	USA(E3)	EUROPE(E2)
*9	J442	JUMPER	–
*10	T406	–	ANTI–BIRDIE
*11	C452	–	470P
*12	R472	–	100
*13	Q409	–	C3BB0S
*14	R449	–	3.9K
*15	R450	–	1K
*16	R438,R439	100K	150K

	R-NO.	USA(E3)	EUROPE(E2)
*17	C446,C447	270P	330P
*18	C448,C449	470P	–
*19	R440,R441	120K	220K
*20	R442,R443	3.3K	2.2K
*21	J403,J404	JUMPER	–
*22	T404,T405	–	LPF(MPX)
*23	R444,R445	8.2K	3.3K
*24	R446,R447	JUMPER	470
*25	J405,406	–	JUMPER

+B LINE

SIGNAL LINE

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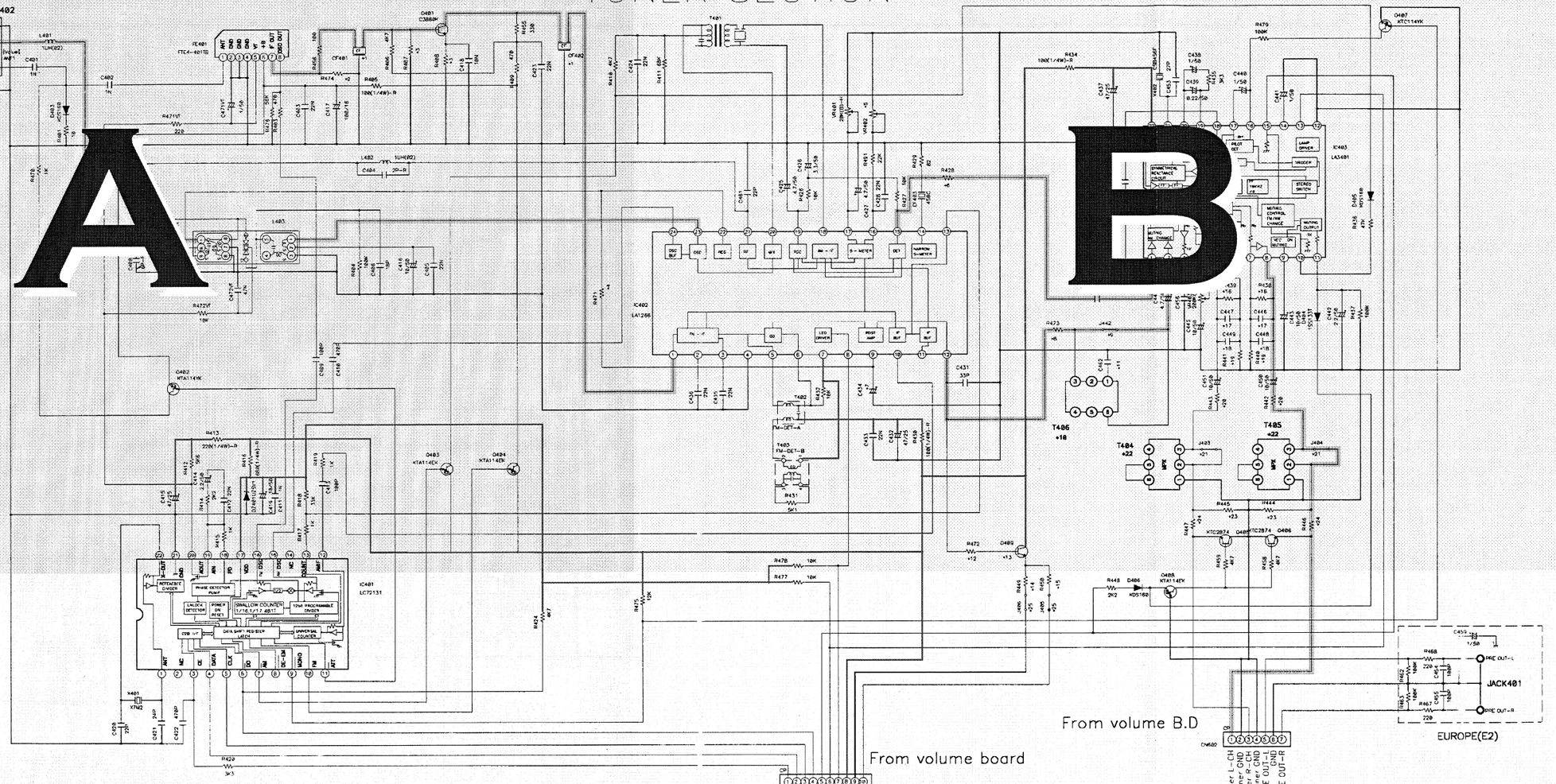
SCHEMATIC DIAGRAMS(5/5)
TUNER UNIT

SCHEMATIC DIAGRAMS(5/5)

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G H

TUNER SECTION



TUNER BOARD

	R-NO.	USA(E3)	EUROPE(E2)
×1	CF401/CF402	SFE10.7MA8	SFE10.7MS3
×2			180
×3	R408		680/680
	R471	18	39K
	VR402	50K(B)-H	100K(B)-H
	R428	3.3K	10K
×7	C434		0.33/50
×8			2.4K

	R-NO.	USA(E3)	EUROPE(E2)
×9	J442	JUMPER	–
×10	T406	–	ANTI-BIRDIE
×11	C452	–	470P
×12	R472	–	100
×13	Q409	–	C3BB0S
×14	R449	–	3.9K
×15	R450	–	1K
×16	R438,R439	100K	150K

	R-NO.	USA(E3)	EUROPE(E2)
×17	C446,C447	270P	330P
×18	C448,C449	470	
×19	R440,R441	120	220K
×20	R442,R443	3.3	2.2K
×21	J403,J404	JUMP	–
×22	T404,T405	–	LPF(MPX)
×23	R444,R445	8.2	3.3K
×24	R446,R447	JUMP	
×25	J405,406	–	

+B LINE

SIGNAL LINE

NOTICE

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WARNING:

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SCHEMATIC DIAGRAMS(5/5)
TUNER UNIT

SCHEMATIC DIAGRAMS(5/5)

1 2 3 4 5 6

TUN

JACK402
{Value}
ANT1
L401
1UH(02)
C401
1N
C402
1N
C400
D403
KDS160
R401
10
R471VT
220
C471VT
1/50
FE401
FTE4-401TB
ANT
GND
GND
GND
VT
+B
IF OUT
OSC OUT
R476
56K
R403
470
C403
22N
C417
100/16
R456
100
CF401
R474
+2
R405
100(1/4W)-R
Q401
C3880K
CF
R406
4K7
R407
+3
R408
+3
C418
10N
R455
330
R409
470
C423
22N
CF
CF402
+1
R410
4K7
C424
22N
L402
1UH(02)
C404
2P-R
R470
1K
L403
C464
3P-R
C408
8P-R
R404
100K
C406
15P
C416
10/50
C405
22N
C472VT
47N
R472VT
10K
R471
+4
IC402
LA1266
C409
100P
C410
470P
Q402
KTA114YK
R413
220(1/4W)-R
R412
5K6
R416
680(1/4W)-R
R419
1K
C414
2.2/50
C413
100P
C415
47/25
R414
2K2
C412
22N
DZ401UZ5V1
C419
10/50
C411
1N
R418
33K
R415
1K
R417
1K
Q403
KTA114EK
Q404
KTA114EK
22 21 20 19 18 17 16 15 14 13 12
X-OUT
GND
ADJUT
AIN
PD
VDD
OSCIN
OSCOUT
NC
COUNT
AMIF
REFEAEBCE DIVIDER
PHASE DETECTOR
IC401

6 7 8 9 10 11

A B C D

UNER SECTION

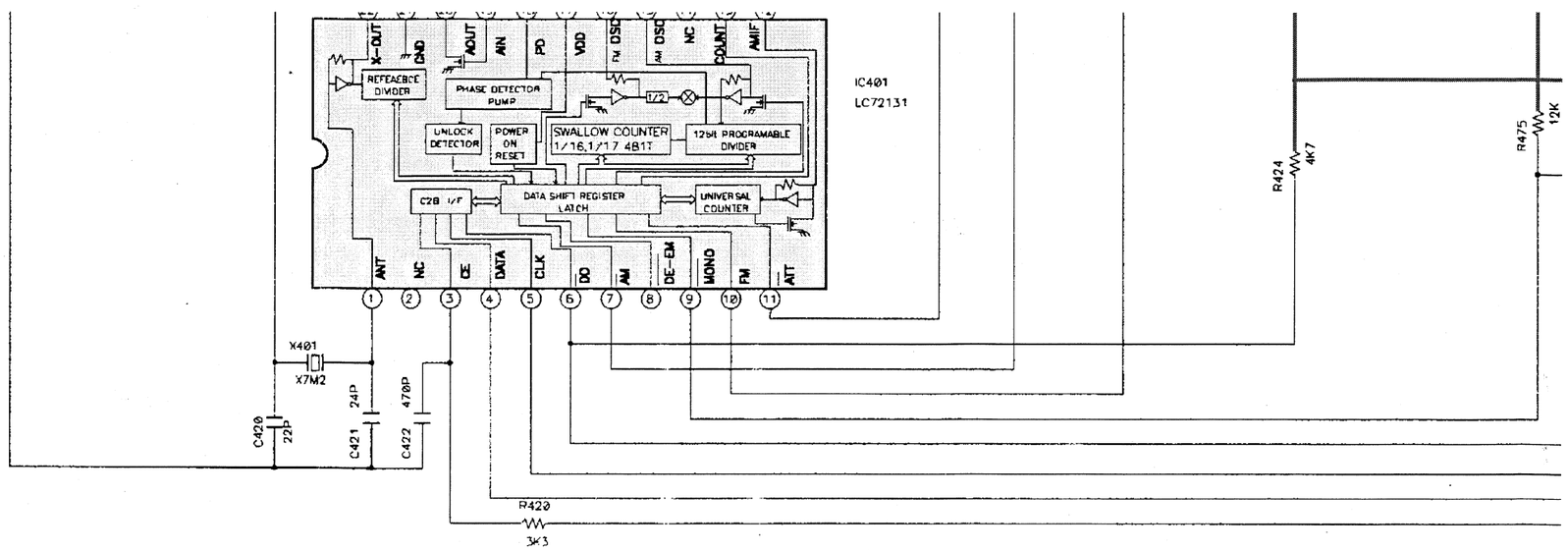
T401
C424 22N
R411 68K
VR401 20K(B)-H
VR402 *5
R491 22K
R429 82
R428 *6
C425 4.7/50
C426 3.3/50
R426 10K
C427 4.7/50
C428 22N
R427 10K
CF403 456C
C461 22P
R434 100(1/4W)-R
C437 47/25
X402 CSB456F
C453 27P
C438 1/50
C439 0.22/50
R435 3K3
C440 1/50
C441 1/50
R479 100K
Q407 KTC114YK
C430 47N-M

IC403 LA3401
VOLT REG
OSC
PHASE COMPARATOR
PILOT DEF
LAMP DRIVER
VCOSTOP
TRIGGER
SYMMETRICAL REACTANCE CIRCUIT
FF 38KHZ
FF 19KHZ <90
FF 19KHZ <0
STEREO SWITCH
DECORDER
MUTING CONTROL FM/AM CHANGE
MUTING OUTPUT
MUTING FM CHANGE
VCC ON MUTING
Rc
1K

D405 KDS160
R436 47K

IC402 LA1266
OSC BUF
OSC
REG
RF
MIX
AGC
AM - IF
S - METER
DET
NARROW S-METER
FM - IF
QD
LED DRIVER
POST AMP
IF BUF
IF BUF

C463 56N-M
C444 4.7/50
C456 680P
VR403 200K(B)-H
C445 10/50
R439 *16
R438 *16
C447 *17
C446 *17
C449 *18
C448 *18
R441 *19
R440 *19
C443 10/50
D404 1SS133T
C442 2.2/50
R437 100K
R473 *8
J442 *9
C462 *11
C451 10/50
C450 10/50
R443 *20
R442 *20
C436 22N
C435 22N
T402 FM-DET-A
R432 10K
C434 *7
C431 33P
C433 22N
C432 47/25
R430 100(1/4W)-R
T403 FM-DET-B
R431 5K1
T406 *10
T404 *22
T405 *22
MPX
J403 *21
J404 *21
R445 *23
R444 *23
R447 *24
R446 *24
Q405 KTC2874
Q406 KTC2874
R459 4K7
R458 4K7
R472 *12
Q409 *13
R478 10K
R477 10K
R448
D406
Q408 KTA114EK



TUNER BOARD

	R-NO.	USA(E3)	EUROPE(E2)
*1	CF401/CF402	SFE10.7MA8	SFE10.7MS3
*2	R474	-	180
*3	R407/R408	470/1.2K	680/680
*4	R471	18K	39K
*5	VR402	50K(B)-H	100K(B)-H
*6	R428	3.3K	10K
*7	C434	1/50	0.33/50
*8	R473	0	2.4K

	R-NO.	USA(E3)	EUROPE
*9	J442	JUMPER	-
*10	T406	-	ANTI-BI
*11	C462	-	470P
*12	R472	-	100
*13	Q409	-	C388(
*14	R449	-	3.9k
*15	R450	-	1K
*16	R438,R439	100K	150k

NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASUERD AT MO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:

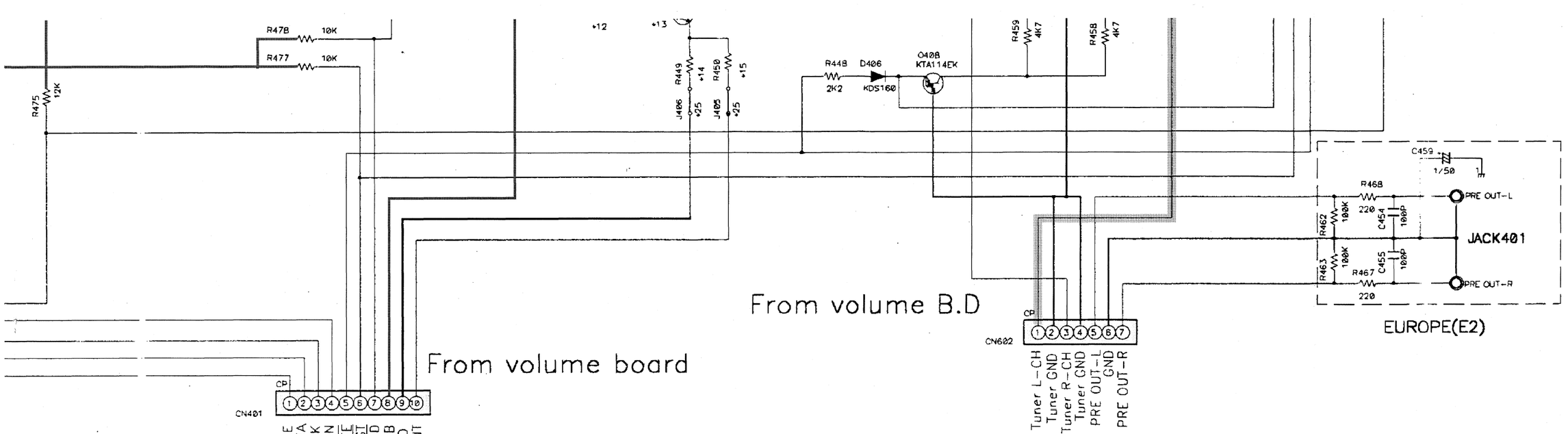
Parts marked with this symbol ⚠ ▒ hav
Use ONLY replacement parts recommend

CAUTION:

Before returning the unit to the customer, r
leakage current check or (2) a line to chas
current exceeds 0.5 milliamps, or if the res
of the power card is less than 460kohms,

WARNING:

DO NOT return the unit to the customer ur
corrected.



EUROPE(E2)
–
ANTI-BIRDIE
470P
100
C3880S
3.9K
1K
150K

	R-NO.	USA(E3)	EUROPE(E2)
*17	C446,C447	270P	330P
*18	C448,C449	470P	–
*19	R440,R441	120K	220K
*20	R442,R443	3.3K	2.2K
*21	J403,J404	JUMPER	–
*22	T404,T405	–	LPF(MPX)
*23	R444,R445	8.2K	3.3K
*24	R446,R447	JUMPER	470
*25	J405,406	–	JUMPER

+ B LINE

SIGNAL LINE

have critical characteristics.
ommended by the manufacture.

stomer, make sure you make either (1) a
to chassis resistance check. If the leakage
if the resistance from chassis to either side
kohms, the unit is defective.

tomer until the problem is located and

SCHEMATIC DIAGRAMS(5/5)
TUNER UNIT

E F G H